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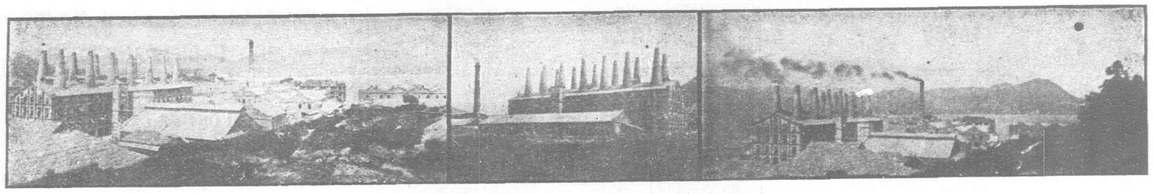

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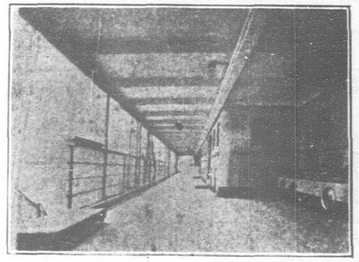

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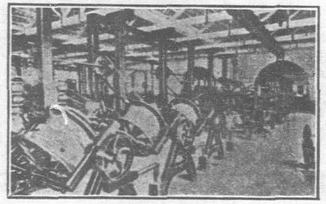

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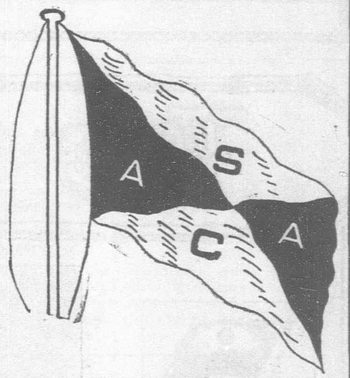

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PROPOSALS FOR REPAIRING THE U. S. A. T. "LISCUM".—Headquarters Philippines Division, Office of Chief Quartermaster, Manila, P. I., December 10, 1907. Sealed proposals, in triplicate, subject to the usual conditions, for repairing the U. S. A. T. "LISCUM" will be received here until 10 a. m. February 1st, 1908, and then opened. Information and blank forms furnished upon application to the representative of the Consular Service of the United States at Hongkong, Shanghai, Singapore and Chief Quartermaster, Philippines Division, Manila, P. I. Envelopes containing proposals should be endorsed "Proposals for repairing the U. S. A. T. "LISCUM", to be opened at 10 a. m., February 1st, 1908, and addressed to the Chief Quartermaster, Philippines Division, Manila, P. I.

Proposals For Coal

PROPOSALS FOR COAL.—Headquarters Philippines Division, Office of Chief Quartermaster, Manila, P. I., December 16, 1907. Sealed Proposals, in triplicate, subject to usual conditions, for furnishing approximately 60,000 tons of coal to the Quartermaster Department U. S. Army, during the Fiscal Year 1909, will be received here until 12:00 o'clock noon, May 2, 1908, and then opened. Information and blank forms furnished on application. Envelopes containing proposals should be endorsed "Proposals for coal, to be opened at 12:00 o'clock noon, May 2, 1908" and addressed to the Chief Quartermaster, Philippines Division, Manila, P. I.

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COMMERCE ✪ ENGINEERING ✪ FINANCE

VOL. IV. MANILA, P. I., SHANGHAI, AND YOKOHAMA, JANUARY, 1908 No. 8.

CHINESE RAILWAYS, MINING AND TELEGRAPHS

The most valuable addition to commercial literature of the Far East is the exhaustive report on the foreign trade of China by Sir Alexander Hosie, Acting Commercial Attaché to His British Majesty's legation at Peking, recently issued from the British Foreign Office in the form of a blue book. Perhaps at no time has the Foreign Office edited a more complete and comprehensive review of the progress of China, covering every avenue of trade and industry.

Under the head of "Telegraphs, Railways and Mining," he writes:

At the end of 1906 the Imperial Chinese Telegraph Administration had a system length 22,419½ miles, with 34,473½ miles of wires and 946.11 nautical miles of submarine cables. Offices numbered 379, of which 62 were open for day and night service and 317 for day service only. The number of instruments in actual use was 768. The staff of the head office in Shanghai numbered 67 and the general staff 3,175, while inspectors, linemen, etc., totalled 2,400.

In addition there are many provincial lines, usually constructed by the Administration, worked and managed independently by the provincial authorities.

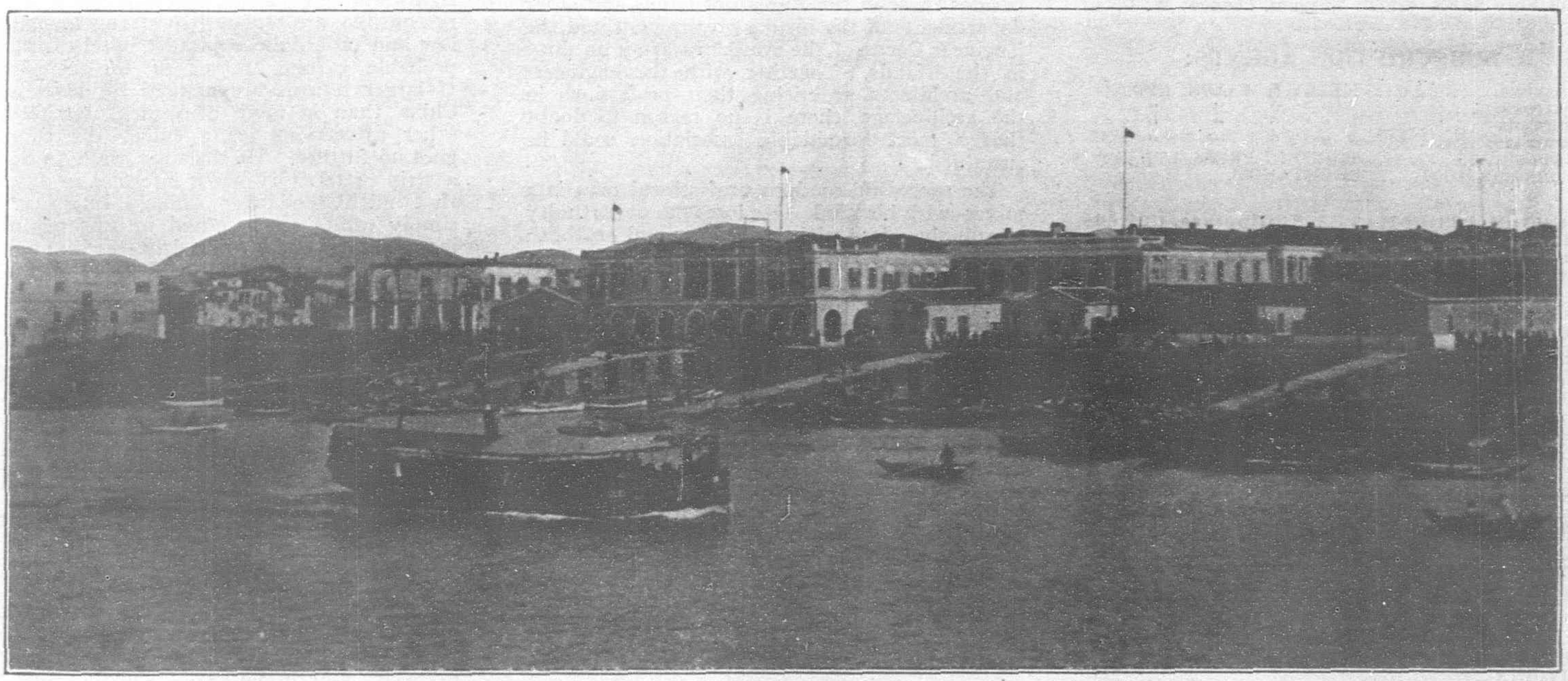
The telegraph companies having connections with China are the Great Northern, Eastern Extension, German-Dutch and Commercial Pacific, while a French cable connects Tourane with Amoy, a German cable Shanghai-with Kiaochow and Chefoo, and a third cable, partly Chinese, Chefoo with Port Arthur. The last was cut during the war between Japan and Russia and is not yet repaired. China has also frontier connections with Burma, Indo-China and Russian Siberia.

In my report for 1905 I dwelt at some length on railways and mining in China, and, although it is unnecessary to recapitulate what I then said, it may be well to place on record the changes and developments that have since taken place.

In Manchuria the railway lines from Port Arthur, Tairen (Dalny) and Newchwang to K'uan-ch'êng-tzu or Ch'ang-ch'un Fu, together with a few short branch lines which fell to Japan as the result of the war, have been transferred to a company called the South Manchurian Railway Company, which will carry out the terms of the additional agreement between China and Japan of December 22, 1905. The light line built by Japan from Moukden to Antung, 187 miles in length, has also been transferred to the company, which will maintain, work and improve the whole system so as to make it fit for the conveyance of the commercial and industrial goods of all nations. One of the proposed improvements is to duplicate the line from Tairen to Moukden. The line which was built by Japan from the Moukden railway station westward to Hsin-min Fu (Hsin-min-t'un), 36 miles in length, was by an agreement with Japan of April 15, 1907, purchased by China for the sum of 1,660,000 yen and has been incorporated in the Imperial Railways of North China, and the alteration of its gauge, which was 3 feet 6 inches, to the standard gauge has already been practically completed. The line from K'uan-ch'êng-tzu to Harbin and east and west to the Russian frontier remains in Russian hands as the Chinese Eastern Railway, which in Chinese territory is now curtailed to 1,072 miles.

The Imperial Railways of North China had another prosperous year in 1906. The gross earnings for the year ending September 30, 1906, amounted to 12,191,188 dol. 81 c. as compared with 12,943,383 dol. 88 c. during the previous year. Maintenance, rolling-stock, traffic and general expenses and charges amounted to 3,429,942 dol. 68 c., leaving a balance of 8,761,246 dol. 13 c. to be carried to the net balance account. Deducting repayment of loan, payment of interest and other charges, including reconstruction of Boxer damage, amounting in all to 1,953,452 dol. 64 c., there was a balance of 6,807,793 dol. 49 c. Improvements' account amounted to 1,739,773 dol. 57 c., thus leaving a balance of 5,068,019 dol. 92 c. A sum of 3,573,565 dol. 57 c. was paid to the Imperial Chinese Government and 1,857,-142 dol. 86 c. contributed towards the construction of the Fengt'ai-Peking-Kalgan line, together 5,430,708 dol. 43 c., swallowing up the balance of 5,068,019 dol. 92 c. and leaving a deficit of 362,688 dol. 51 c., but there was brought forward from the previous year a balance of 5,562,988 dol. 63 c., to which has to be added the part and interest of the indemnity claim amounting to 1,727,688 dol., a total of 7,290,676 dol. 63 c., so that there was a credit balance of

(Continued on page 229.)



THE BUND AT AMOY.—THE LARGE BUILDING IS THE CHINESE IMPERIAL CUSTOMHOUSE, WITH THE OFFICES OF THE OSAKA SHOSEN KAISHA AND BANK OF TAIWAN AT SIDE

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MANILA, SHANGHAI AND YOKOHAMA, JANUARY 1908

CONTENTS

ENGINEERS' INSTITUTES AND ASSOCIATIONS IN THE FAR EAST

The necessity of co-operation in the professions is probably more apparent in the Orient than in any part of the world. The East presents many new problems that stagger the uninitiated and it is by benefiting from the experience of others or by personal experience that success is attained. That the engineers and architects in all the principal ports in the Far East, with the exception of Manila, have appreciated the advantages of organization to their respective professions is apparent in the different associations that have flourished where two or three of kindred aims in life have come together for mutual benefit. This is especially true of such associations as the The Institute of Engineers and Shipbuilders of Hongkong, The Society of Engineers and Architects of Shanghai, The Association of Engineers of Singapore, The Engineers' Institute of Penang and The Engineers' Society of Siam with its headquarters at Bangkok. All these associations are of long standing and their members closely identified with the engineering development of Eastern Asia and none, we are certain, would refuse to testify to the advantages that have accrued to the profession generally and the members thereof individually.

No action has yet been taken in the Philippine Islands to perfect an organization after the example set by the pioneers of the Asian coast and this must be charged to lack of initiative rather than to any limitations in material. Perhaps at the present time the islands could muster more civil, mechanical, electrical, and marine engineers, and architects than any territory of its size in the East. In the Bureau of Public Works alone there are a small army of civil engineers and architects besides those in the Bureau of Lands and other departments of the insular government and the Engineer Corps of the American army on duty in the islands. Together with the engineers and architects practicing their professions in the archipelago, there is no reason to doubt that a most formidable association could be sustained.

The successful modern professional man is a mixer with his kind. He loses no opportunity to rub shoulders with his fellows and establish a reciprocal relation in the exchange of ideas. This attitude indulged by any number of ambitious members of any profession places that profession on a higher plane, to the greater benefit of the human race and to the individual who participates.

It is for the leading engineers and architects of the Philippines to realize the necessity of this reciprocity, and to take the initiative to make the organization immediately possible. We are certain that every assistance and encouragement will be given such a movement by the pioneer associations of Eastern Asia, who have already set the example and have enjoyed the larger benefits accruing thereto.

ANTI-FOREIGN AGITATION IN CHINA

The last word has not yet been said in regard to the agitation in China against foreign railway enterprise nor does there appear to be a disposition on the part of a certain section of the Chinese of many communities to abandon the cry against the granting of any concessions or the negotiating of foreign railway loans whenever this subject is discussed. The slogan "China for the Chinese" is as sadly misinterpreted as the cry "The Philippines for the Filipinos" and is leading many uninformed Chinamen to excesses through the influence of irresponsible leaders. This undesirable condition demonstrates that Chinese officialdom does not enjoy the confidence of the people: the latter seem ready to follow the advice and council of any agitator rather than that of the official who has heretofore never indicated by word or deed that he had any interest in their welfare. It is as natural for the Chinaman to believe that Peking stands ready to sell him out lock, stock and barrel, when the irresponsible agitator says so, as to expect the official who has always squeezed him to deny it; and from his experience with officialdom any advice brings to him more comfort than that from Peking. The trouble with the ordinary Chinaman who desires to better his condition is that he has a better acquaintance with the gentleman and his squeeze at Peking than he has had as yet an opportunity to enjoy with the gentleman who is filling his ears with strange yet pleasing sounds. He is not wise enough to conclude as Hamlet did "To bear the ills we have than fly to others that we know not of." Of course he will yet learn to discriminate to better advantage.

It must be admitted that China is undergoing a rapid change or revolution, and as in all revolutions it is to be expected that the radical element would assume an extreme attitude. This extreme feature will very naturally retard the very process of evolution or development to which all revolutions aspire. Confidence so necessary to progress will be destroyed by hot-head agitation and instead of China going forward under more and more favorable conditions, slowly but surely, the old order of things will disappear without a substantial substitute.

It may appear to them that foreign concessionaires in China heretofore took advantage of a weakened government to secure more than was their due and it is natural that an awakened people should object to the sacrifice of public interests under the pretense of development; but the Chinese government, not the capitalist, is to blame. The nationality of the capitalist should not enter into the question. The more foreign capital is anxious to participate in the development of the country, the better the indication that China's future is assured. When capital, which has no country, seeks investment in any country, the element of security is the first consideration. Once it is satisfied that property rights will be respected and that the authorities responsible are sufficiently strong to maintain law and order, the capitalist inquires into the probable earning power of the investment. If larger returns are assured by investing in China than in more convenient territory, all other attractions being equal, the capitalist goes no further. He does not want to acquire a strip of territory or to interfere in any way that might endanger China's integrity. He simply wants security and returns on investment and will endeavor to drive the best possible bargain in competition with other capitalists seeking similar investments.

This may seem to apply exclusively to foreign capital. Nothing is more misleading. Chinese capital seeks the same security and the best bargain it can drive. It will shrink from investment in Chinese securities as readily as foreign capital if conditions are unfavorable. And unfavorable conditions are sure to result from a continuation of the present agitation.

It might be said that China, while offering a field for the investment of capital in the development of the country, could not provide the security. In its weak condition, the government was obliged to include in concessions granted the right to enforce respect for property rights, when invaded, with foreign troops if necessary, and this naturally tended to encourage the occupation of Chinese territory by foreign powers and would eventually result in the partition of the country if such conditions were allowed to continue indefinitely.

The only remedy, the only hope then for China is not in violent anti-foreign agitation but in building up a strong government supported by an intelligent public opinion capable of regulating its internal affairs and providing ample protection to life and property.

Then there would be no possible excuse for foreign intervention and the money market of the world would regulate the Chinese investments whether by domestic or foreign capital.

These agitators claim that the country should be developed by Chinese capital and Chinese enterprise exclusively. That would be very desirable if possible or if Chinese capitalists could be induced to agree with them. But Chinese capital is as timid as foreign capital when any enterprise is suggested any distance from the immediate sphere of foreign influence. This is especially true of railway enterprise. While there has been much talk and agitation over the utilization of Chinese capital and direction in the development of the railroad system in China, there is a significant absence of enthusiasm on the part of the much talked of

Chinese capital. So far as we can learn it is all on paper and is liable to remain there so long as conditions resulting from continued agitation prevail. And until China is in a position to assure the proper protection, neither foreign or domestic capitalists will invest their money in any enterprise in the country, unless sufficient foreign influence to supply the defection is available in the territory involved. In the meantime and until China puts her house in order, meets her national obligations and puts this agitation behind her, the country will not go forward and the danger of partition will increase. Hedged in by lack of confidence on either side, with western progress hurrying them from the rear, some Chinese Moses must appear to find a passage across the Red Sea of agitation to the promised land of national development and prosperity or there is the fate for the Chinese that history was not destined to include in its reference to the fortunate Israelites. He will not be found in the aggregation of agitators who now have the stage in China and who are breeding distrust, suspicion and lawlessness among a peace loving people whose national reputation for integrity is unequalled, and whose industry is the expression of a world's energy.

RUBBER FOR STREET PAVING

The cry of overproduction, which is heard from time to time as company after company is floated to engage in the rubber growing industry, should be counteracted in a measure at least since the demand for the product is increasing by leaps and bounds, in fact more than keeping pace with the production. Judging from the dividends ranging from 20% to 50% announced by many Far Eastern Companies during the last year, prices might fall materially and yet leave handsome returns on capital invested.

In a recent number of *Indian Engineering* reference is made to the utilization of rubber for street paving in which it is pointed out that its use might make for economy in the upkeep of thoroughfares. *Engineering* says:

"The *Ficus elastica* is still sufficiently rare and expensive in this country to make any thought of using rubber for street paving seem extravagantly luxurious; and the cost of transporting it from Africa is still expensive enough to admit of rubber being treated as a refinement beyond the reach of our feet—whatever may be done with it in tyres and other extravagances of wealth. But the evidence that is gathering of its durability in the few places in which it has been used for pavement is so striking as to make it worth the while of all cities looking about for improved pavement to consider to what extent stitches in time save nine. The elasticity of the material is one of its qualities which adds to its durability."

It is reported that paving of rubber has lasted for over twenty years without showing signs of deteriorating and if this be true there will be a few small orders to fill not dreamed of by the rubber planter, however sanguine. The continual outlay for street repairing that drains municipal treasuries annually, would, we believe, pay for all the rubber necessary for a substantial rubber coating as a substitute for the ordinary street paving.

It is now up to some enterprising municipality to make the tests necessary to establish or refute this alluring claim.

Since the above writing the Rubber Growers' Association has taken the initiative, according to the Singapore *Free Press*. A committee is now making an investigation and will very probably make some experiments in the near future. The *Free Press* says:

"The Rubber Growers' Association, whose membership now numbers upwards of 100, is making investigation with the object of ascertaining whether the laying of sample rubber pavements on roads in conspicuous parts of the metropolis would be likely to assist plantation grown rubber, and to this end is enquiring into the cost, duration, etc., of rubber pavements that have already been laid down. The matter will receive the careful attention of the Committee and should it appear that plantation grown rubber could be benefited by action on such lines the possibility of combined action by rubber growers in order to prove the advantages of rubber paving will be considered.

"This idea is not a new one and was indeed mooted by Mr. Rutherford some time ago. He proposed to several rubber growers that the industry might be advertised by treating a portion of the roadway round Charing Cross Hospital, but for various reasons, action in this direction was suspended for the time."

DEVELOPMENT OF EASTERN RUSSIA

There is reason to believe that the Russian government realizes that in her Eastern territories there is an abundance of natural wealth that only awaits capital and enterprise to realize upon. In selling Alaska to the United States she gave away a source of wealth that annually yields more than the total estimate of the nation's revenues. There is as a result a desire to explore the regions to the North East with a view to securing data on the mineral deposits, so that no more wealth will be ignored for lack of enterprise to develop it. For this purpose a party of experts left St. Petersburg last June and expect to extend their investigations over a period of six years. They will visit the country North of the Amur and the Altai mountains and proceed as far to the North-East as Behring Straits.

There is a belief prevalent that in the territory to the North similar formations will be found to those in Alaska. Whether this theory will be borne out or not, the Russian government proposes to spare no expense in the survey, and before it is completed, hundreds of experts will have swarmed over Eastern Russia from the Arctic Ocean to China. Even in Saghalien, there is great activity in development of the mineral resources, and from indications no nationality will be excluded from participating in the work.

With this extensive investigation of the country north of China concluded there will be but little of Asia unknown. Topographic maps will have been completed and knowledge gathered of this hitherto wild and unexplored wilderness, that will place before the civilized world a comprehensive idea of these regions. That there is much mineral wealth in this northern section there is little doubt, but ignorance of the country and of the serious natural difficulties in that climate have served to make failures of pioneer enterprises to such an extent that it is at present difficult to interest capital in development in that direction. When the report of this expedition of the Russian government is made available, it will remove all the prejudice that now exists against a territory that has a reputation as undesirable as that of Alaska before it was opened for exploitation and proved the big bonanza of the last decade. With its development all the terrors with which its name was associated have passed away. History may repeat itself in northeastern Russia and another frozen North prove one of the richest sections of an empire.

DECADENCE OF THE AMERICAN MERCHANT MARINE

The announcement made by President R. P. Schwerin of the Pacific Mail S. S. Co. at a dinner given by the Society of Naval Architects and Marine Engineers at New York, November 22, to the effect that the company might not renew its charter upon its expiration, April 15, 1908, and his bitter arraignment of the administration, created a sensation, and means that after 15 years of struggle against foreign competition the magnificent fleet of 19 vessels controlled by this company is likely to disappear from Pacific waters. This conclusion was reached after vain endeavor to secure some support from the American government to offset the heavy subsidies enjoyed by the line's foreign competitors and the removal of interstate regulations that gave foreign lines the advantage in rate regulation as affecting outward cargo. In order to appreciate President Schwerin's attitude the following excerpts from his speech may prove of interest:

Schwerin said that he had asked to be left off the list of speakers, but when called on and once on his feet said he 'felt it incumbent upon him to tell the truth about the most deplorable state of affairs, which bids fair to drive our flag from the Pacific Ocean, as well as from the Atlantic.'

His speech was tinged with bitterness and assailed the Government's attitude toward shipping on the Pacific, and declared that the present policy bade fair to drive the American flag from the Pacific, as well as from the Atlantic. His line, he said, was losing money as a result of the operations of the interstate commerce law.

Foreign rivals, who could change their rates at will, had piled up $5,000,000 in assets, he said, while the American line, compelled to give thirty days' notice of a new passenger rate, was dropping between $3,000,000 and $4,000,000 in hopeless competition.

Schwerin's subject was 'What the United States Is Doing for Its Merchant Marine on the Pacific Coast.' He referred to the liberal subsidies which are granted on the Pacific to British, German and Japanese vessels, and stated that two magnificent vessels were to be added to one Japanese line which has already increased its fleet by three additional ships in comparatively recent times.

" 'But a subsidy alone will not make a line a success,' he said. 'Let the United States Government pass a bill like the Chinese prohibitive immigration enactment or the discouraging measure now in force with regard to the Japanese. Let these companies suffer the loss of their emigrant traffic and you will see their vessels tied up for lack of support.'

"What has the United States Government done for us? Within a short period we were fined $421,000 for infractions of the many regulations with which we have recently been hedged about. Of this amount we paid some $260,000, having managed to secure a reduction of the original amount.

"Now we have had our entire carrying trade —our traffic—taken away from us through the operations of the Interstate Commerce Commission. How? Why, we are now obliged to give thirty days' notice of any change in rates. Other lines, not of registry here, can change their rates at any time without notice. Thus, when they lower their rates we are obliged under heavy penalty to give notice of our intention to change ours in thirty days. Then, just three days before the month expires, our cut is met by a lower one. Then our books are always subject to inspection. We have about two expert accountants and half a dozen sleuths going over them all the time to find evidence of rebates.

"The foreign lines, with their books far away from here, not subject to the same regulation, do as they please with regard to these things, and the result is that we have suffered a loss of from $3,000,000 to $4,000,000 while our rivals have added some $5,000,000 to their transportation. That is the plain, hard fact. That is the way the United States treats its shipping.

"I can tell you now that our charter lapses on April 15th next and it is a very serious question whether the charter will be revived. We are going backward. There is nothing for us to gain under present conditions. About nineteen vessels will in all probability soon be tied up in San Francisco harbor, as are those already of the Australian service, because of the fact that they cannot be made to earn money as we are now being treated.

"It's all tommy-rot to talk about sentimentality over the American merchant marine. We can't view the merchant marine from a sentimental standpoint. The man who can do us good is not the man who is going to deliver us with the big stick and an atmosphere of moonshine and splendor.

"Pardon me if I speak forcefully. It is hard, after fifteen years of hard, effective work, to be on the verge of losing one's job and that for something over which he has no supervision. The idea that Mr. Hill or Mr. Harriman or Mr. Huntington should build ships and maintain them if the project will not

pay them, is all nonsense. If a man cannot make money investing it in steamships he certainly will not put out his money that way."

At this time when a fleet of sixteen battleships with some thirty odd cruisers, etc., is on its way to the Pacific it is a striking anomaly that the value in warships is much greater than the investment in American ships afloat in Pacific waters, and that even those straggling evidences of marine enterprise in these waters may be retired before the fleet weighs anchor for Suez. Getting down to hard facts, the millions spent in sending the fleet to the Pacific for the purpose, as some enthusiasts declare, "of notifying all interested parties that America is determined that her flag shall be as well known and respected in those waters as in the Atlantic," if properly distributed in subsidies and other forms of legitimate encouragement among the American steamship companies, would result in sufficient evidence of the American commercial flag to give an excuse for the visit of the Armada, and a sufficient reward in trade returns to warrant the expense.

It is a notorious fact that the tonnage in American warships in Pacific waters has from year to year exceeded the tonnage of the American merchant marine, with but short periods as exceptions. And all this time we have been hearing so much of trade expansion and the control of the commerce of the Pacific by America. The speech of President Schwerin discloses the real obstruction to the control of the Pacific and its commerce. It is a provincial Congress at Washington, the contracted vision of which might be confined to river traffic as proper limits for its enterprise rather than to talk supremacy of the Pacific by means of a fleet without enough vessels of the merchant marine in those waters to supply it with coal and provisions.

The present administration has considered a well organized plan to encourage and assist the merchant marine in the Pacific Ocean, but the proposition made by the representative shipping interests, has been turned down by Congress.

In the meantime, we have heard much of the increase in the navy, the commercial control of the Pacific with warships, but nothing has developed that gave any indication of interest in the provision of a substantial fleet of American bottoms that must be provided if these naval demonstrations mean anything more than an outing for the navy or a chance for a president to gain political capital on the Pacific Coast.

We cannot blame the Pacific Mail if it retires from business, even to the extent of selling its ships to a Japanese line, as is rumored. The advantages of sailing under the Japanese flag is a commercial consideration, and if a Japanese company can make money where a handicapped American company would operate at a loss, there is no reason why the sale should not be made. The sooner the Japanese or some other nation controls all the shipping in the Pacific, the sooner will the American Congress awaken from its trance.

It has been said that the reason the administration has neglected the American shipping in the Pacific is due to the strained relations between the President and Mr. Harriman. We do not believe this is true, for to do so would be to charge the President with a spirit of selfishness that is not consistent with the reputation he enjoys.

That everything points to a rapid decadence of the American merchant marine in the Pacific, no one familiar with the situation in the Far East will doubt, and the only possible means of preserving the limited number of ships now operating, and to encourage the investment of American capital in the Pacific carrying trade, will be found in the active assistance of congress in the form of such subsidies and removal of such restrictions on American shipping that will at least eliminate the handicap that at present makes it impossible to compete with any degree of success against the favored foreign lines.

RAILWAY AND MINING DEVELOPMENT IN CHINA

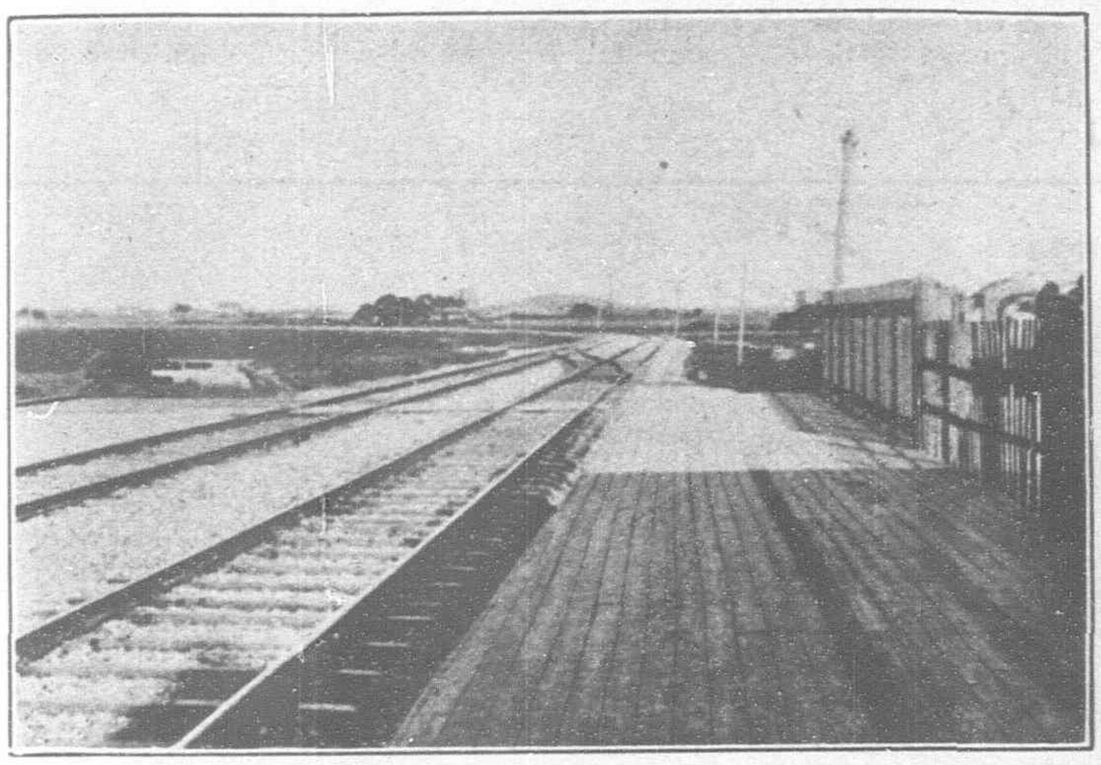
The reorganization of China has been termed the world problem of the twentieth century, and whether in retrospect it may appear as far-reaching as it does in prospect, there can be no doubt that for existing States and political relations its potentialities are vast, and the effects possibly imminent. It is customary to regard the character and policy of Oriental countries, and especially of China and Japan, as largely inscrutable to Western minds, but this vein of thought is little more than the measure of our ignorance of the people and the land—an ignorance which is, perhaps, the most primary reflection presenting itself when we approach the consideration of the current position. One has only to remember the mutually exclusive opinions common as to the ethos of the Japanese nation to realise how complete a bar an entire unconformity of language, literature, and conventional signs presents—a difficulty vastly increased in the case of China by its size, variety, and retarded development. Mere geographical apperception is an obstacle through varieties of spelling and unintelligibility of names, to say nothing of the absence of maps on the scale we possess for other countries. Upon this country, owing to the competition of the Europeanized nations, modern material progress is being rapidly forced, which in the present stage of development of that large and densely populated empire may for practical purposes be considered as railway construction. In the north the transformation is most marked, as, owing to the great political interests involved, money has been poured out abundantly, and Pekin and Manchuria now possess railway communication for which they would have waited many years had private or native capital been requisite for its construction. Semi-political considerations also apply to the communications of Pekin with the coast, and of Tsingtau with Chinan. Of strictly inland communications there is the big line from Pekin to Hankow, connecting the capital with the central provinces. With this exception, however, practically all the railways outside of North China at present working are feeder lines. They are: Shanghai to Woosung, which is being extended to Nanking, and will be finished this year; P'inghsiang to Liling by which fuel is transported to the Shiang river for the Hanyang ironworks and Hankow. There is a small section of railway from Canton to Samshui, open in Kwantung; and a small feeder line which connects the Hankow-Pekin railway with the Pekin Syndicate's mines in Honan. Of lines under construction, the most noticeable is the extension of the trunk Pekin-Hankow south to Canton, from whence, as we were reminded by a share issue in this country recently, an extension to Kowloon is in progress. In the south-west the Tonkin railway is under construction as far as Yunnan. A short line is being run from Swatow to Ch'auchou fu. As we have seen, the Shanghai railway is being completed to Nanking. In Honan, K'aifeng and Loyang are being connected, while further north a feeder line is being run from the main trunk at Chenting to T'aiyüan. North-west from Pekin itself communication is being opened with Kaifeng beyond the Great Wall. Of projected lines, the most important is the westward extension from Hankow through Hupeh into Szechwan. The Shanghai-Nankin railway will be extended in a southerly direction along the coast as far as Ningpo. Canton, besides the line to Kowloon, will be joined to Amoy and Kanchow-fu in the Kiangsi province. In the same province Kiukiang and Nanch'ang-fu also are to be connected. The enumeration of these various enterprises, not to mention those less definitely projected, though possibly somewhat unintelligible without the assistance of the map, serve, at any rate, to indicate how extensively the idea of railway construction is being accepted in China, where not long ago it met with equally general hostility. The effect of this policy upon mining and its allied industries, both directly and secondarily as departments of commercial activity, must be of great and increasing importance. China is recognised as being in many provinces extensively mineralised, and there is at the present time considerable prospecting activity. In addition to natural resources, moreover, the Empire possesses what, when conjoined to natural wealth, is perhaps of even greater importance viz, unlimited labor and a vast home market. These circumstances give a special importance to the coal and iron resources of the country, which are known to be of great magnitude. A promising start has already been made in the production of iron, the exports of which increased from 981 pikuls in 1903 to 201,848 pikuls in 1904 and 413,209 pikuls in 1905, the latest year for which statistics are available, during which year the Hanyang iron-works supplied over 30,000 tons for export. The other metals exported in 1905, of which record appears in the Imperial Maritime Customs returns, were 94,327 pikuls of antimony and antimony ore, as compared with 116,434, 141,062, and 180,159 pikuls respectively for each preceding year back to 1902. There was a small and declining output of quicksilver amounting to 279 pikuls in 1905. The tin output of China is a matter on which considerable uncertainty exists; the exports, however, are given as follows: 1902, 64,284 pikuls; 1903, 41,527 pikuls; 1904, 50,391 pikuls; 1903, 75,302 piculs. In each case the export is practically exclusively derived from the Mengtsz district of Yunnan, and is practically all exported to Hongkong. Whether it reaches that port via the Tonking railway, and is thence distributed again into China, or figures as a genuine export oversea, the Customs returns do not make clear; at any rate, there seems to have been a slightly larger amount of tin available from China in 1904-05, as while the exports were higher in the latter year, the imports were in 1904, 63,950 pikuls; and in 1905, 54,170 pikuls. So far, however, as affects the metal markets of the world, China is of more importance as a consumer than producer. All will remember the effect produced upon the copper market by the Chinese purchase in 1904 and 1905 for their copper coinage requirements; and if, as has been stated of late, a gold currency scheme were to be adopted, the enormous volume which Chinese trade would be likely to assume, were there a credit system commensurate with that enjoyed by Europe, would undoubtedly make considerable demands upon the existing gold supplies of the world which, in the opinion of some economists, at any rate already support as much credit as can be reasonably expected. Of the commercial importance of the organisation of China upon modern lines, such as has been accomplished by Japan, it is unnecessary to speak, as given national stability it could probably absorb and return good interest on most of the surplus capital which European and American investors are likely to have available over a lengthy period of time. As regards mining investments, however, the conditions are at present exceedingly unsatisfactory. A code of mining regulations was promulgated in 1902 which, in addition to uncertainty of title, fixed royalties of 5 per cent. of the output of coal, iron, antimony, alum, and borax, 10 per cent. on petroleum, copper, lead, zinc, sulphur, and cinnabar, 15 per cent. on gold, silver, galena, and quicksilver, and 25 per cent. on diamonds and crystals; in addition to which 25 per cent. of the surplus, if any, remaining over after the replacement of capital and repayment of interest is claimed as a further royalty. These regulations have since been amended under Articles 9 of the British and 7 of the United States commercial treaties with China executed in 1902 and 1903 respectively; but the new conditions are said to be even more impracticable than those of the 1902 regulations. One serious difficulty would appear to be that uniformity can only be obtained by the creation of some central department of mines, and at present, so far as it is possible to judge, the central government does not possess the power to secure the effective observance of such a code by the district and provincial authorities.—*The Mining Journal.*

CHINESE RAILWAYS, MINING AND TELEGRAPHS

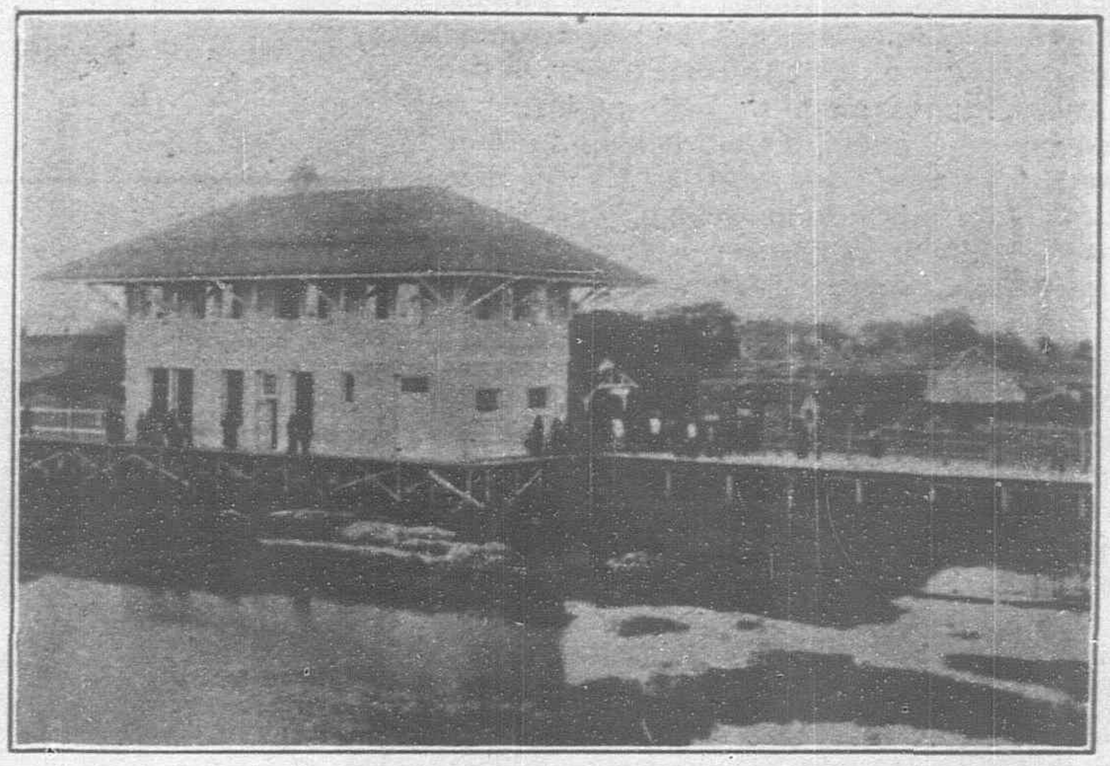
(Continued from page 225.)

6,927,988 dol. 12 c. at the end of September, 1906.

In 1905 a contribution of 1,500,000 dol. was made by the Imperial Railways of North China for the construction of the Feng-t'ai-



VIEW OF TRACK ON CANTON-HANKOW RAILWAY FROM FATSHAN STATION

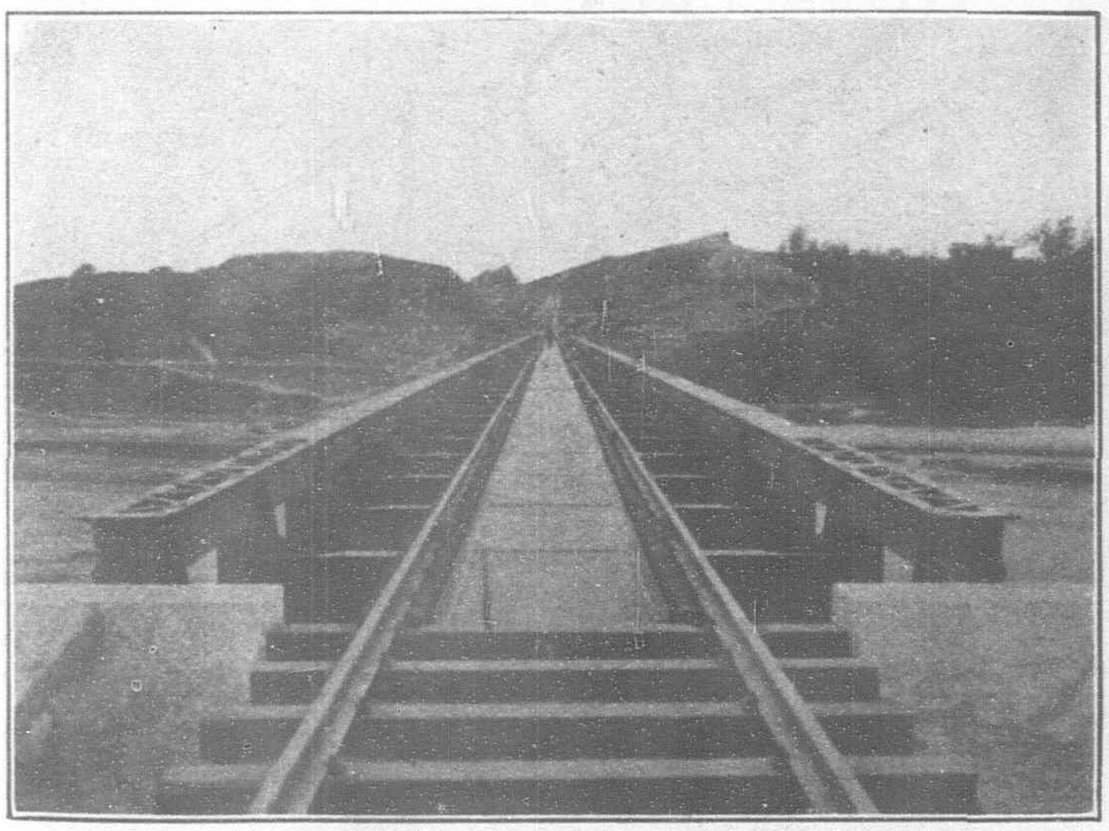


REAR VIEW OF FATSHAN STATION ON THE CANTON-HANKOW RAILWAY

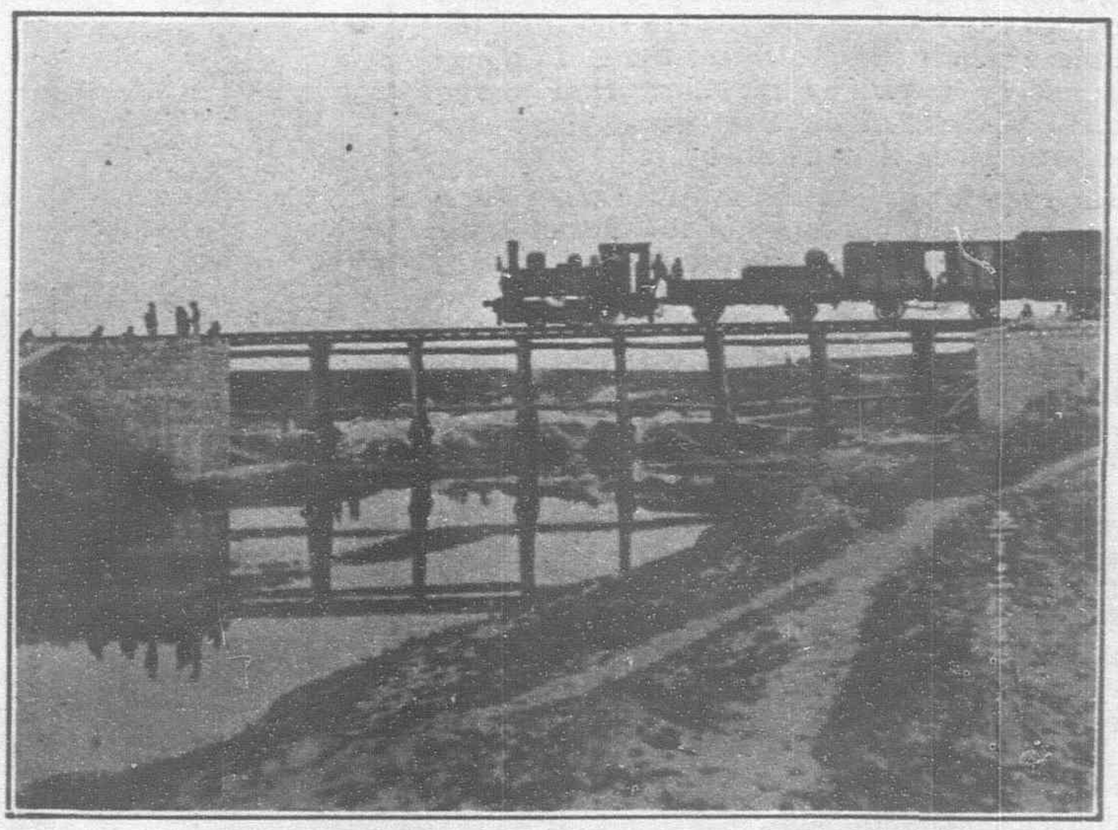
Peking-Kalgan line, and as stated above the contribution was increased by 1,857,142 dol. 86 c. in 1906. The line, which really branches off 2 miles north of Feng-t'ai and crosses the Ching-Han a little to the west of Peking, was opened to traffic on September 30, 1906, as far as Nan-k'ou, a distance of 33 miles from Peking, and is in good working order. Tunnelling is proceeding beyond Nan-k'ou. The first tunnel, about 1,300 feet long, is half way up the Nan-k'ou Pass. This is followed by two short tunnels of 60 and 90 feet already completed and at the top of the pass comes a long tunnel of 3,000 feet at which work is proceeding, as in the first tunnel, at both ends as well as at a central shaft 90 feet deep. In April half of the first and 1,150 feet of the long tunnel had been completed and it is expected that they will be finished during the coming autumn. To the north-west of the tunnelling the embankment is being continued.

Wash-outs in the province of Honan interrupted for a time the traffic on the Ching-Han (Peking-Hankow) Railway during 1906, but a number of new culverts have been added and other measures taken to prevent their recurrence. I have travelled in many parts of China, and although I had heard of the great plains of Eastern China, the railway journey from Hankow to Peking was a perfect revelation to me. In Hupei the railway is able to thread its way through low hills which close in upon it from time to time until a higher range of hills, which forms the boundary of Hupei and Honan, is reached. A tunnel of some length has been pierced through the range and at the northern end the line enters on the plain of Honan passing through a countrs, resembling in every respect thprairinde lae y of Canada. As far as the eye can reach there is frequently nothing but plain and, in the absence of watercourses, one can readily imagine the destruction that may be caused by tropical rains both to the railway and to the crops. On the south bank of the Yellow River a short tunnel through a low hill leads on to the bridge of 102 spans—a monument to human skill—over which the train passes slowly in 16 minutes, Except for two streams of no great volume. some distance apart, the wide bed of the Yellow River consisted of sand (it was April), and at several points workmen were busy piling stones on bundles of reeds built around the screw piles to which the bridge is lashed and chained.

Everything seemed to be in good order, but my business with the railway is commercial. On an average eight freight trains heavily laden passed down during each of the three days I spent on the line, but with the exception of coal and salt, the latter in large quantities bound for Honan from the Lut'ai salt works near Tientsin, most of the goods were carried in covered sealed wagons whose contents it was impossible to ascertain. Piece and other foreign goods at the railway station at Hankow left no doubt to the nature of the up freight. In Hupei the principal crops were wheat, peas, beans and paddy, for the rice-seed beds were being sown, while in Honan rice disappeared, wheat and the opium poppy predominated and the principal tree was the jujube (commonly called the Chinese date), *Zizphus vulgaris*, Lamb. Cotton, however, is a great autumn crop in Honan and it has a good reputation for cleanness and colour



240 METER BRIDGE ON THE PEKING-HANKOW RAILWAY



TEMPORARY BRIDGE ON THE LINE OF THE PEKING-HANKOW RAILWAY DURING CONSTRUCTION

In Honan and Chihli the cultivation of Central and Southern China was left behind. Each field covered many acres and ploughing with ponies, bullocks, donkeys, mules and even human beings was merrily proceeding on the land not under crop. The ordinary train takes about 36 hours' travelling to cover the 754 miles between Hankow and Peking, the same as the weekly express, which, however, travels at night, and, although the distance could easily be accomplished by the latter in

24 hours, it is considered advisable to run slowly avoid accidents and give no opportunity to those who, in a country like China, would willingly denounce the iron horse. The line is undoubtedly paying well, and I have the best authority for stating that an express brings in per trip 4,000 to 6,000 dol. and has paid as much as 8,000 dol. With the exception of the Yellow River bridge there were no great engineering difficulties to contend with in the construction of the line which passes over a remarkably flat, easy country. In the province of Chihli the Ching-Han has three short branch lines:—(*a*) From Liang-hsiang Hsien station, 19 miles from Peking, to Tuli, 12 miles; (*b*) from Liu-li-ho, 30 miles from Peking, to Chou-kou-tien, 10 miles; and (*c*) from Kao-yi Hsien station, 203 miles from Peking, to the coal mines of Lin-ch'eng Hsien, a distance of 11 miles. These branch lines were constructed for the purpose of obtaining supplies of stone, lime and coal.

Some years ago the Imperial Railways of North China constructed, for the use of the Court, a light line from a point some 4 miles to the west of Kao-pai-tien, a station on the Ching-Han Railway, 52 miles from Peking, westward to the Imperial tombs, a distance of about 50 miles. There is a daily passenger train over the line.

I may mention here that a short line of 4 miles from Fêng-t'ai to Lu-kou-ch'iao built and owned by the Imperial Railways of North China connects their system with the Ching-Han Railway. Fêng-t'ai station is 13.18 miles from the station in Peking.

Of the branch line known as the Chêng-T'ai Railway, which leaves the Ching-Han at Chêng-t'ou (the first station to the south of Chêng-ting Fu) for T'ai-yüan Fu, the capital of the province of Shansi, a distance of 155 miles, 87 miles were open to traffic at the end of 1906. Since then work has been rapidly pushed forward and it is expected that the remaining 68 miles will be completed in the coming autumn.

As regards the Tao-k'ou-Ching-hua (Tao Ch'ing) line in the province of Honan, which was taken over by China in 1905, it has been extended 2¾ miles at the western end from the field in which it stopped to the town of Ch'ing-hua. It is crossed by the Ching-Han to the immediate south of the Hsin-hsiang Hsien station with which it is joined by rail.

The Pien-Lo Railway is so called from Pien-liang-ch'êng, the old name of the city of K'ai-feng Fu, the capital of the province of Honan, where it starts on the east, and Lo-yang Hsien, its present destination, within which lies the prefectural city of Honan Fu. With the proposed extension to Hsi-an Fu, the capital of the province of Shensi, the line will be 116 miles in length. It is open for traffic from K'ai-fêng Fu to Cheng Chou, where it crosses the Ching Han Railway, and for several sections to the west. At the end of 1906 41 miles were completed. Trains were running regularly between Chêng Chou and K'ai-fêng Fu and I had just time at the former station to ascertain the passenger fares between the two places; they were:—First class 2 dol. 40 c., second class 1 dol. 60 c., and third class 80 c. There is only one intermediate station.

The Tsingtau-Chinan-Poshan Railway, in the province of Shantung, 270 miles in length, is credited by the customs report of Kiaochow with the carriage of 847,379 passengers and 448,941 tons of freight, mostly coal and coke, during 1906, but the German official returns give 823,000 passengers and 368,000 tons of goods. There is another short line, 4 miles in length, in Shantung connecting Huang-tai-ch'iao and Lo-kou.

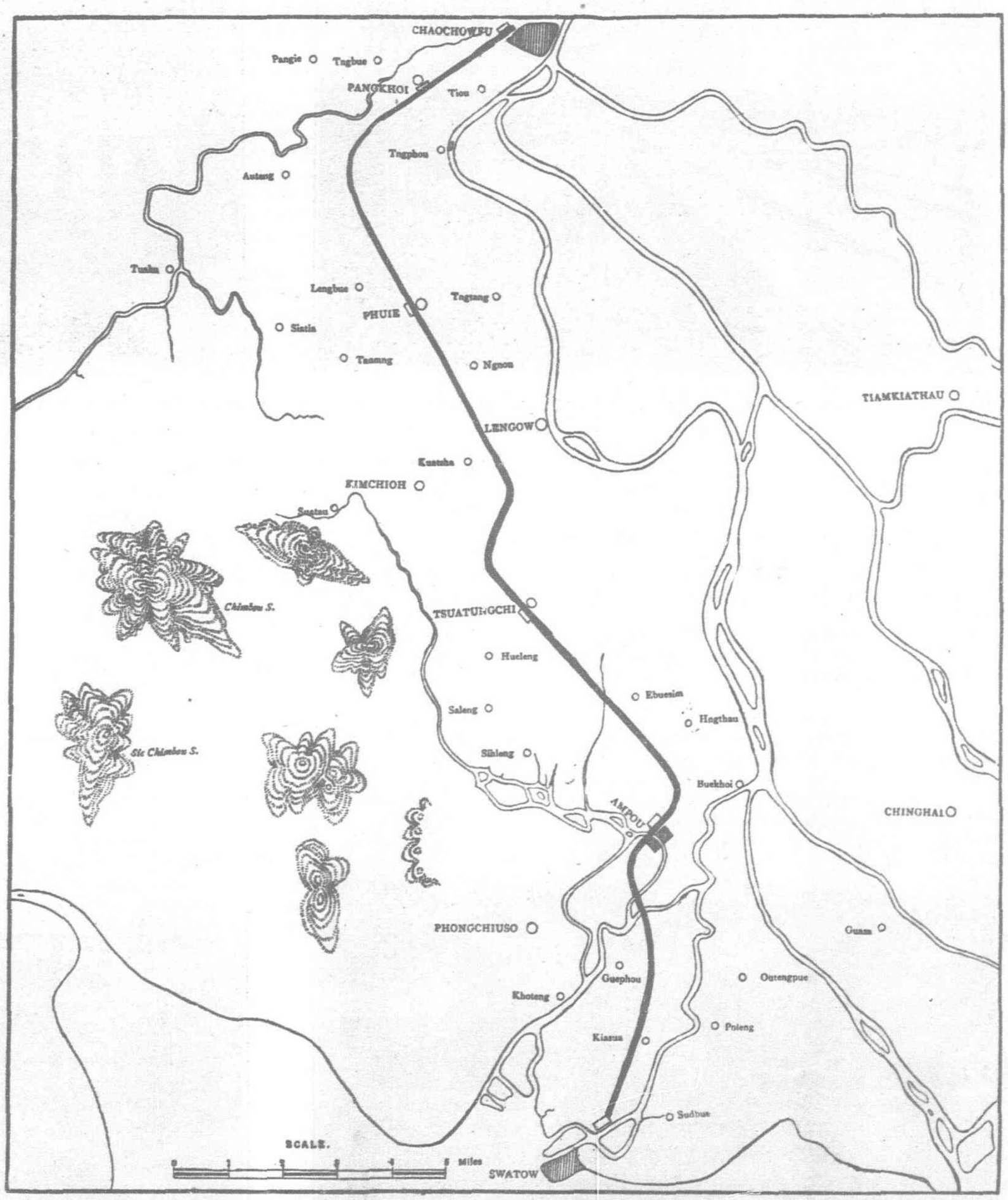
The total length of the Shanghai-Soochow Chinkiang-Nanking Railway now under construction by the British and Chinese Corporation is 193 miles. In July, 1906, trains were running between Shanghai and Wusieh, a distance of 79.80 miles and the line has recently been opened as far as Chang Chou or 103.94 miles. It is anticipated that the whole line will be completed and in working order in the spring or early summer of 1908. The tunnel near Chin-kiang, some 1,400 yards in length, has been found more difficult than was anticipated. In the four weeks ending June 15, 1907—the latest returns available—the total number of passengers carried was 132,543. In addition to the daily average of 4,734 passengers, 18,000 tons of cargo were carried, while the total earnings for the four weeks amounted to 91,667 dol.

On November 14, 1906, the first sod of a railway to connect Hangchow, the capital of the province of Chekiang, with the foreign settlement was turned under the auspices of the Chekiang Provincial Railway Company, a purely Chinese undertaking. By the route laid down the distance was to be 12 miles, and in March of the present year an embankment 10 miles in length had been built and locomotives imported.

There has been no change in the An-yüan-P'ing-hsiang-Chüchou line in the province of Kiangsi and Hunan, the length of which, however, is given as 64 miles not 56½ miles as stated in my report for 1905.

The Swatow-Ch'ao-chou Fu (24½ miles) line was opened to traffic on November 28, 1906, and was in full swing when I travelled over it in March. It labours under the great disadvantage of its termini being each three-quarters of a mile distant from Swatow and Ch'ao-chou Fu, but it is intended to bring the southern terminus at Swatow to the bank of the river on land to be reclaimed for the purpose. It was built by a Japanese contractor and Japanese employés were in evidence at each of the nine stations. Three trains run each way daily and the earnings run from 600 to 700 dol. per day. There is a short extension round and beyond the city of Ch'ao-chou to a place called Kagee.

The Canton (Shek-wai-tong)-Fatshan-Samshui line of 30 miles, with a double track of 10 miles as far as Fatshan, continues to prosper. The number of passengers carried in 1906 was 2,910,875; the daily average in and outof all stations was 7,975; the total numbers carried to and from Samshui were 241,476 and 156,099; and the greatest number carried in one day (January 22, 1906) was 14,855. I may mention here that the baggage allowance of passengers is:—First class, 100 lbs., second class 75 lbs. and third class 50 lbs.; and that the fares over the whole line are:—First class 1 dol. 75 c., second class 1 dol. and third class 55 c.; and the time occupied is one hour and a quarter. Trains run every hour between Canton and



MAP OF THE SWATOW-CHAO-CHOWFU RAILWAY

Fatshan and every two hours between Fatshan and Samshui. The receipts average 60,000 dol. a month and the ratio of expenses to earnings is 33 per cent. The earnings in 1906 were 9,000 dol. ahead of the 1905 figures. During April, 1906, the West River burst its dykes, the line was washed out for 2,000 feet near Sainam bridge and the track was 6 feet under water for a mile and a half. The foundations of one of the abutments of one of the bridges gave way and passengers had to travel by cargo boats for about three weeks, but the actual stoppage of traffic was only a day and a half. The line generally is being improved, and on account of the poor quality of the ties used by the constructing company 35,000 sleepers have had to be replaced at a cost of 65,000 dol. The widening of the embankment and the raising of the track cost 109,416 dol. during 1906. No accidents of any consequence occurred during the year, but several deaf and blind persons were struck by passing trains and killed. Chinese are being trained in the offices and workshops at Shek-wai-tong for future employment on the Canton-Hankow Railway. The rolling-stock is inadequate for the traffic, and I was informed by the superintendent that cars and wagons had been ordered from the United States and that an instalment of the order was expected any day. I may state that there are only two foreigners connected with this line—a superintendent and a head carpenter, both Americans and doing excellent work.

Opposite Shek-wai-tong and on the left bank of the Canton River, about a mile above the Island of Shameen—the foreign concession—is Wong-sha, the southern terminus of the Canton-Changsha-Hankow Railway, which, in spite of the discord among its Chinese shareholders, is being built northwards. In March, 1907, I walked up the single track as far as a long cutting beyond which rails had been laid for 10 miles. At the start the embankment is low and sandy, but further on it was some 6 to 8 feet in height and built of a yellowish clay. Construction trains were passing up and down. In the 3 miles there were numerous temporary wooden bridges across creeks and I was informed by a competent authority that the average cost of the permanent line, including rolling-stock, of the 720 miles between Canton and Hankow would be about 75,000 dol. per mile.

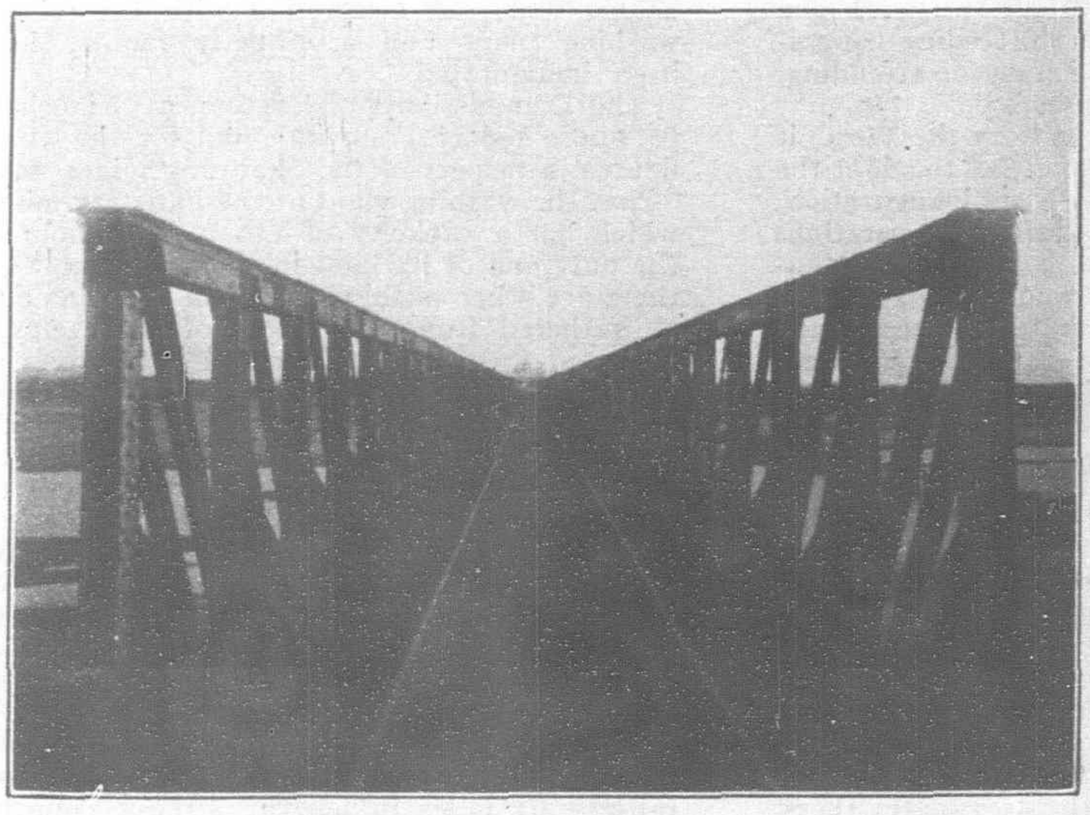
The above three railways are in the Kwangtung or Canton province, but there is a fourth known as the Kungyik-Sunning-Samkapoi, 55 miles in length, now under construction in the south of the province by a Chinese company, and I was informed that the railway material was being brought from the United States and that construction trains were already running on the line.

The French are slowly pushing their railway from Tonkin into the province of Yünnan.

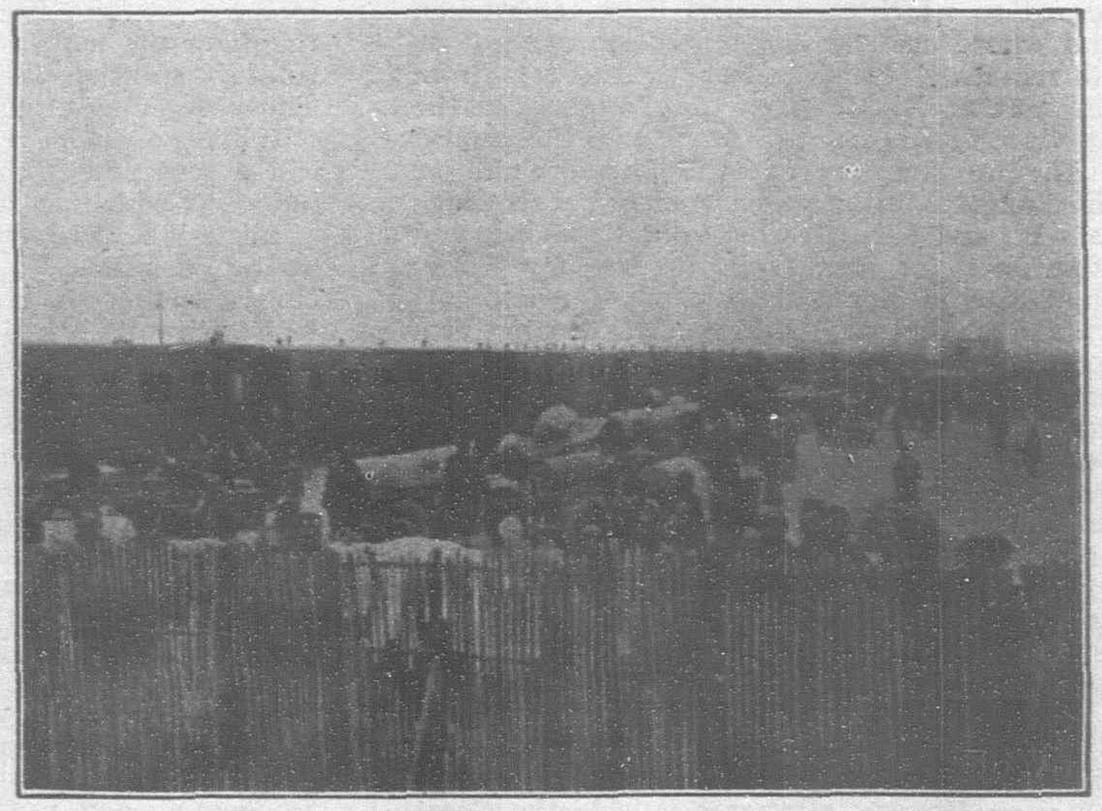
THE BUND AT AMOY

At the end of 1906 it was open in Chinese territory from Ho-k'ou for a distance of 19 miles; in May of the present year the distance was increased to 44 kiloms. or 27 miles, and as work is being rapidly pushed forward along the whole line it is anticipated that it will be open as far as Mengtzu in April, 1908, and that in from 18 months to 2 years thereafter, that is to say, at the close of 1909 or beginning of 1910, the whole of the 292 miles to Yünnan Fu will be built and in working order.

I cannot leave railways in China without a few words regarding the Hong-Kong (Kowloon) Canton line, which will run to a length of 125 miles, 21 miles of which lie in British territory and are being constructed by the Hong-Kong government. Work on the British section was begun at the end of 1905, and tunnelling, bridging and embankment laying have all been proceeding simultaneously, with the result that, although I was authoritatively informed in Hong-Kong in March, 1907, that it would

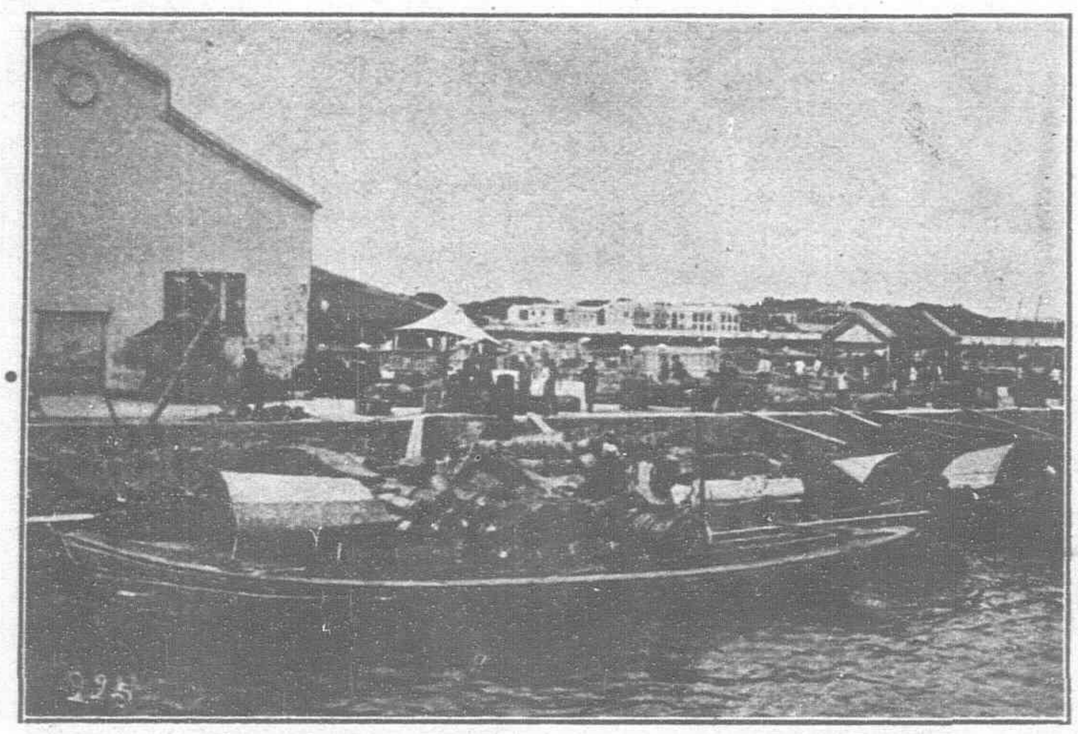


240-METER BRIDGE ON THE PEKING-HANKOW RAILWAY

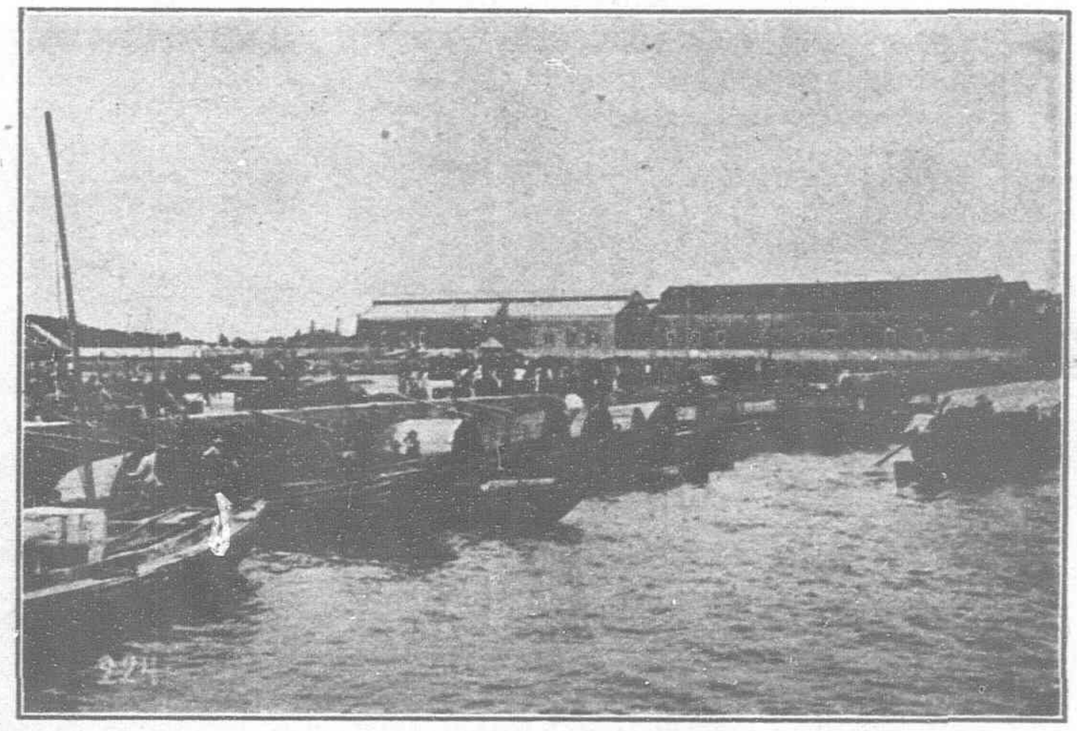


ARRIVAL OF TRAIN AT CHUCHOW STATION, PEKING-HANKOW RAILWAY

not be completed until 1910, it is now expected that the work will be finished by the end of 1909. A working agreement has to be signed by the Hong-Kong and Kwangtung governments, and there now remains the construction of 104 miles within Chinese territory to link



THE BUND AT SWATOW SHOWING CUSTOMS INSPECTION SHED



BUND AT SWATOW SHOWING THE GODOWNS OF THE CHINA MERCHANTS STEAM NAVIGATION CO.

up Hong-Kong, or rather Kowloon, with Canton, the most populous city in China.

In addition to the Soochow-Hangchow-Ningpo Railway in the provinces of Kiangsu and Chekiang and the Tientsin-Chinkiang Railway in the provinces of Chihli, Shantung and Kiangsu, the concessions for the construction of which are at present under discussion with the Chinese Government, I have before me a list of 22 railways projected by Chinese to be built by Chinese and covering different parts of the Empire from Mongolia and Ili in the north and north-west and Manchuria in the north-east to the province of Kwangtung in the south and from Ssuchuan in the far west to Kiangsu in the east. It is at present unnecessary to enumerate these various lines, as some of them may never materialise, and I shall confine myself to one or two of the shorter lines in regard to which some steps have been taken and whose prospects of realisation are not at all remote. I shall select three:—(1) From the port of Kiukiang on the Yangtsze in the province of Kiangsi to Nan-ch'ang, the capital of the province; (2) from the port of Wuhu on the Yangtsze in the province of Anhui to Ningkuo Fu and Kuangte Chou in that province and later on to connect with the Soochow-Hangchow-Ningpo line at Hu-chou Fu, and (3) from Shanghai to Kashing (Chia-hsiang Fu). As regards (1) a commencement has been made with the embankment to the west of Kiukiang; in the case of (2) a railway wharf has already been secured by the Andui Railway Company in the general settlement at Wuhu, while some bridging has been done further inland and the first sod of the Shanghai-Kashing (Hu-Chia) line was turned on January 21, 1907. The enthusiasm for railway building in China generally may be gathered from the following report of the turning of the first sod which appeared in a Shanghai paper at the time:—"The turning of the first sod of the Hu-Chia (Shanghai-Chiahing or Kashing) Railway took place on Monday afternoon outside the Great South-gate of the native city of Shanghai. The managers of the proposed line obtained the headquarters of the Chinese volunteers of the native city for the reception place for receiving the guests invited to witness the ceremony of digging the first sod, which place was quite a third of a mile from the reception hall, both places being prettily decorated in red colours above all of which the dragon flag proudly waved. The ceremony took place at about 2.30 o'clock. The head director of the company struck the first spade into the sod and His Excellency Lü Hai-huan, the Chinese Treaty Commissioner, being highest in official rank amongst those present, dug the first sod on behalf of the guests. This was done amidst a great salvo of fire-crackers and music by a military band This over, the guests marched back to the reception hall, where refreshments awaited them. During the repast speeches were read, first by Taotai Li, on behalf of His Excellency Viceroy Tuan Fang of Nanking; the next speech being that of His Excellency Governor Chên Kuei-lung of Soochow, which was read out by Taotai Lu Shun-peh. The third speech was that of the Shanghai Taotai, which was read by his deputy, Sub-prefect Liang. The fourth and last was the speech of His Excellency Chêng Su-an, former Commissioner of Frontier Defence in Kuangsi. His Excellency spoke on behalf of the gentry and merchants of Shanghai, congratulating the company at the energy and patriotism shown by them by undertaking such a great venture as that of constructing railway lines over the whole province of Kiangsu—hence the name of the company, the 'Kiangsu Province Railway Company.' Mr. Hsia, representing the chief and vice-director of the company, then read out the joint speech of those two gentlemen thanking the makers of the preceding congratulatory speeches and the guests for attending. The proceedings then terminated."

While borrowing railways from the West, it will be seen that China does not fail to adopt the functions which accompany their inauguration.

Little is heard regarding Japanese operations at the Fushun and Yen-t'ai coal mines in Manchuria, and as coal is not brought down country to Newchwang it is likely that only the railway and local requirements are at present supplied. Doubtless the mines, which contain excellent coal, will be developed later by the South Manchurian Railway Company to which they have been assigned by Japan.

My object in writing of mining was to refer to mines in China worked by foreign methods and under foreign superintendence, but I cannot pass over one native mine, called the Chingching because it lies in the Ching-ching district of the province of Shansi. It supplies the Chêng-T'ai Railway with fuel and the coal is in much demand as a home coal in Chihli province. Coke, manufactured at the mine, is brought to Tientsin and used in the two mints there. Coke, manufactured at the mine, is brought to Tientsin and used in the two mints there.

The output of the Chinese Engineering and Mining Company's three mines in the K'ai-p'ing district to the north-east of Tientsin amounted in 1906 to 958,675 tons against 851,523 tons in 1905. These mines supply the northern railways, steamers, local markets, part of Manchuria and to a certain extent Northern China as far as the Yangtsze. The output does not more than keep pace with the demand.

Under railways I have already referred to the branch line of 11 miles from the Kao-yi Hsien station on the Ching-Han Railway to the coal mines of Lin-chêng which are, I believe, worked under foreign superintendence. These mines supply the Ching-Han Railway with fuel as well as local and other markets.

In my 1905 report I mentioned that the Peking Syndicate's mine at Pai-shan in the province of Honan had been flooded after 14-foot seam of coal had been pierced, and that it had been found necessary to send for increased pumping plant from the United Kingdom. It has been found, however, that the seam struck was too friable to work, and at a still greater depth another seam, 10 feet in thickness I believe, has been reached and at the present time, and as a beginning, 10 tons of good workable coal are being raised daily.

At the Fang-tzu mines in the province of Shantung the Shantung Mining Company produced 163,233 tons of coal during 1906 against 134,00 tons in 1905. The output at the Poshan mine from July, 1906, when the first seam of coal was struck to the end of December was 7,136 tons. The Fang-tzu mine admitted of an export from Shantung of 23,000 tons. In connection with this mine a washing plant and a briquette factory have been inaugurated.

The Commissioner of Customs at Kiaochow, to whose report I am indebted for the above figures in respect of the Shantung mines, says: "That the washing plant at the Fang-tzu mines, which has a capacity of 150 tons an hour, is the only one of its kind in the Far East," but there are other washing plants in China as may be gathered from the report of the Commissioner of Customs at Changsha, who gives an excellent description of the Ping-hsiang mines in the province of Kiangsi worked, like the Shantung mines, under German superintendence. Mr. Ready's description is well worthy of reproduction. He says: "Although there are known to be hundreds of coal mines scattered throughout this district, they are all, with one exception, worked in the most primitive and unproductive manner. This one exception is the Ping-hsiang coal mine, which, situated in Kiangsi, just beyond the Hunan border, is connected with the Siang River at Chuchow, some 50 miles above Changsha, by a trunk railway 64 miles in length, without counting several miles of sidings, which, moreover, are continually being increased. This line is substantially built, the rails weighing 76 lbs. per yard, while the gauge of the track is 4 feet 8½ inches, and well ballasted with broken stone and gravel. These rails were manufactured at Hanyang, though most of the sleepers were imported from Japan. The bridges are of either steel girders or masonry arches, the longest being about 500 feet. The present daily traffic consists of four trains each way, carrying about 800 tons of coal and coke, while to each are attached three passenger cars, usually well filled. The mine was opened in 1898 with the

object of providing coal and coke for the Hanyang iron and steel works, and, under skilled German supervision, has been steadily developed until, during the past year, both the surface and underground plants were completed to the standard of a daily output of 1,500 tons of coal, which it is expected will be increased to 3,000 tons a day in the course of a few years provided the Hanyang Iron and Steel Works are developed according to present anticipations. The average output of coal during the year was 1,000 tons a day, the greater part being turned into coke, leaving about 200 tons of coal, in the form of washed and screened lumps and nuts, for sale. The coke, being made from washed dust coal only, is of good quality and very suitable for blast furnace work, while the coal is good steam coal, as proved by tests made on both British and German gunboats. The mine consists of an adit and a shaft plant. The main adit has been driven a length of 2,000 metres, the first seam of the south-west coal field being then reached. Haulage in the adit will be done by electric locomotives. The main shaft of 4.5 metres diameter has a depth of 115 metres, while the first level is driven at a depth of 50 metres and the second level at a depth of 100 metres below the adit level. The secondary shaft, however, has only reached the first level. Up to the present the output has chiefly been taken from the adit level and from the first level. The total amount of coal contained in that part of the Ping-hsiang coalfield, which belongs to the Ping-hsiang Coal Mining Company, is computed at 300,000,000 tons, whereof a great part can be taken out by the level adit, while it is estimated that a shaft depth of only 200 metres will be sufficient to drain the whole coalfield, which shows the working conditions to be most favourable. Exclusive of machinery for the mine plant, the surface plant consists of two coal screening and washing plants, 174 coke ovens, one fire-brick factory, one coal briquette plant, one machine shop and foundry. At Chuchow the coal and coke is either loaded into the company's tow boats and lighters, to be towed down river 282 miles to Hanyang by the company's own tugs, or into native junks, which make the voyage under their own sail. An extension of the railway from Chuchow to a point 20 miles above Changsha, by which a large bend of the river with many shallows would be cut off, is now under consideration, also the company's already considerable fleet of light-draught tugs, lighters and tow boats is shortly to be largely increased. The skilful energy with which this isolated enterprise in scientific mining and transportation has been worked up to such a brilliant success in the face of untold difficulties reflects the greatest honour on those concerned, while as an example of Western methods in this undeveloped mining district its value cannot be overestimated."

The last coal mine to which I shall refer is that being or about to be worked by the Kiangpei Coal and Iron Mining Company in the province of Ssuchuan. Much time has been lost in making preliminary agreements, but a large mine not far from the port of Chungking, which was already being worked by a British pioneer in conjunction with Chinese, has been secured by the company, the necessary plant has been ordered and will reach the mine early in 1908, and when the light railway, the construction of which from the mine to the nearest waterway forms part of the concession, has been built, there is every hope that the output of this coal, one of the best in China, which finds a good local market and has been exported down river for many years, will be largely increased by the use of more scientific methods.

The Anglo-French quicksilver mines in the south-east of the province of Kueichow have so far not proved much of a success.

SWATOW-CHAO CHOW FU RAILWAY

The Chao Chow & Swatow Railway Co., Ltd., is the first distinctly Chinese railway organization which has succeeded in building and operating its road. The Company is registered under the Hongkong ordinances, and a director, Mr. Ng Li Hing, resides in that Colony and looks after its interests there. The head office is located on Chee On St. in Swatow.

The construction work was carried out by Japanese engineers, under the direction of the well known firm of Mitsui Bussan Kaisha. The road was recently opened to traffic throughout its entire length.

The line is almost 30 miles in length, and has four stations besides the terminals. The gradients are low, and curves are comparatively few. Japanese hardwood sawed ties and American steel rails, angle bars, and spikes were used. The three 54-ton locomotives, constituting the motive power, are of American manufacture. They bear, however, a conspicuous name plate in English and Chinese, setting forth the firm that sold them. The coaches, of which the road has twenty-two, are built on the corridor plan, and were constructed in Japan. They will each seat fifty passengers. The first class coaches are fitted with seats that imitate the American patterns, and are upholstered in imitation leather. The second class coaches have wooden benches. The couplers are of the American type. A standard train consists of fourteen coaches and a guard's van. The latter is the only one provided with brakes, the American air brake on the locomotive being relied on to handle the train. A number of small freight cars complete the list of the company's rolling stok. This road is the first in China to be built with Chinese capital.

Previous to the formal opening of the road the trains had been running for eight days (three a day each way), and the daily average of passengers carried was 2,000. The fares per ride are 67 cents gold for first class, and 27 cents for second class. The 30 miles are made in about one hour and thirty minutes.

At present the line is continually guarded by armed men stationed at intervals of about a mile. The engineers and conductors and the train dispatcher are Japanese, but the ticket collectors on the trains and all other employes are Chinese. The dispatching is done by telephone.

SHEN TUN-HO, CO-DIRECTOR OF IMPERIAL CHINESE MARINE AND RAILWAY BUREAU

CHINESE CIGARETTE FACTORIES

The extensive bean-oil manufacturer of Newchwang a few months ago established, at a cost of $33,000, a modern cigarette factory. Two cigarette machines of Japanese manufacture were installed, and although the present output is but 100,000, these machines are capable of turning out 140,000 cigarettes daily. Two more machines, at an additional cost of $17,600, will soon be set up and double the present output

is figured on. When the factory was first put into operation the entire working force consisted of Chinese. For a time the business was run at a loss, and the owner being suspicious of the head Chinese overseers, discharged them and substituted Japanese instead. Since then the business has been run at a fair profit. Four styles of cigarettes are manufactured, and these are known as the Tower, Gold Dragon, Goldfish and Two Butterflies brands, which sell, respectively, at 88, 83, 66 and 44 cents gold per box, the Tower containing 400, the others 500 to a box.

The cartons are lithographed in colors and are made in Japan. The wording is mostly in English, the reverse side of the package having a few Chinese characters. The factory is known as the Te Fang Cigarette Company. The tobacco used in the three better varieties is American leaf purchased from Chinese importers in the south of China. The Japanese overseer informed me that all the American tobacco used was a North Carolina leaf. The cheapest grade of cigarettes made in this factory is the Two Butterflies variety, and the tobacco used is a mixture of Chinese and American leaf.

It may be that the owner is one of the most wealthy Chinese merchants in the province, and having a large capital at his command, it is possible that he may become a prominent factor in the cigarette industry of Manchuria. The Te Fang factory employs about eighty workmen, the majority of whom are boys. The wages range from $1 to $1.65 per month for the boys and from $3.60 to $5.50 per month for the more experienced workmen. These wages include their food, which consists of two meals per day. A boy, on commencing work, receives $1 per month; after three weeks he receives an increase and at the expiration of three months, if proficient, he receives the limit of $3 per month. The men receive $3.60 at the start, and this sum is gradually increased to the limit of $5.50.

The factory is conducted in a well-regulated manner and the surroundings, are surprisingly clean. The cutting, drying and cooling machines are modern and are also of Japanese manufacture. The entire success of the plant is attributed to the Japanese overseers, who are most energetic workers and thoroughly understand the Chinese workmen and their methods. The Japanese are experts in the cigarette business, having spent some years in the service of the Government cigarette monopoly in Japan.

MR. TAFT'S VISIT TO SHANGHAI

(Correspondence New York Times.)

Shanghai, Oct. 15.—Secretary Taft's visit to Shanghai was the complement, one might say the continuation, in so far as political significance may be attached to it, of his sojourn in Japan. In fact, it is impossible to intelligently weigh the possibilities of the one without considering the elements of the other. It is as yet but dimly realized in America, but fully appreciated in Japan, that should a collision ever occur between the two nations the real apple of discord will not be found in either of the two countries or in their direct relations with each other, but will depend upon conditions on the mainland of Asia.

The fundamental genesis of any future war between Japan and the United States will turn upon the fate of China, and the course of events here. It is only by firmly grasping this idea and holding fast to it through all diplomatic flank movements that the situation can be comprehended, and the importance of Mr. Taft's passing visit to Japan and China understood.

In respect to its immediate and prospective influence Secretary Taft's visit to Shanghai has two aspects—its significance to other foreign powers directly interested in the future of the empire, and its significance to the Chinese. Of the two the latter is the more interesting for the moment, and perhaps ultimately more important. It is not exaggerating to say that the reception given Mr. Taft by the Chinese was an event unique in the history of the nation. To appreciate what it really involves requires an understanding of China as she was and is, of the political and economic forces now operating within the empire; of the ambitions of foreign powers in this part of the world, and the recent movers through which they have found expression. These matters are not to be intelligently set forth in a sentence, but may be briefly summarized.

When, two years ago, Mr. Taft touched at Chinese ports returning from Manila to the United States the American Government was in bad odor with the Chinese. The so called boycott was in full swing. Japan had reached the zenith of her success over Russia, and her influence was paramount in China. Encouraged and stimulated by her example, China was beginning to stir with new ambitions, and these impulses were for the moment peculiarly susceptible to a propaganda directed against Western nations and their influence here.

The time that has elapsed since then is short, but it has been sufficient to bring a great change. Perhaps the most striking expression of this change is the rapid waning of Japanese influence. It is not necessary to enter here into the reasons for this; they are to be found in Manchuria and Korea. Of the fact there is no doubt. China is not blind nor asleep. She has noted the trend of events; her statesmen have watched with growing apprehension the series of agreements with other powers by which Japan is obtaining for herself free scope in the north; in Manchuria she has felt Japan's hand upon her vitals.

Seeing these things Chinese statesmen have reflected, and with the instinct to maintain, if need be, equilibrium by outside pressure, which has so long been the keynote of Chinese diplomacy, they have turned toward the only great Western power which is as yet not included in any scheme for dismemberment and exploitation, and which will be the most affected by such a condition—the United States. To assume, as many do, that the disposition of the United States to return to China the undisbursed balance of the "Boxer" indemnity is the cause of the present revulsion of Chinese sentiment toward America is to take a very narrow view of the issues and conditions which determine international politics.

MR. THOMAS MILLARD.

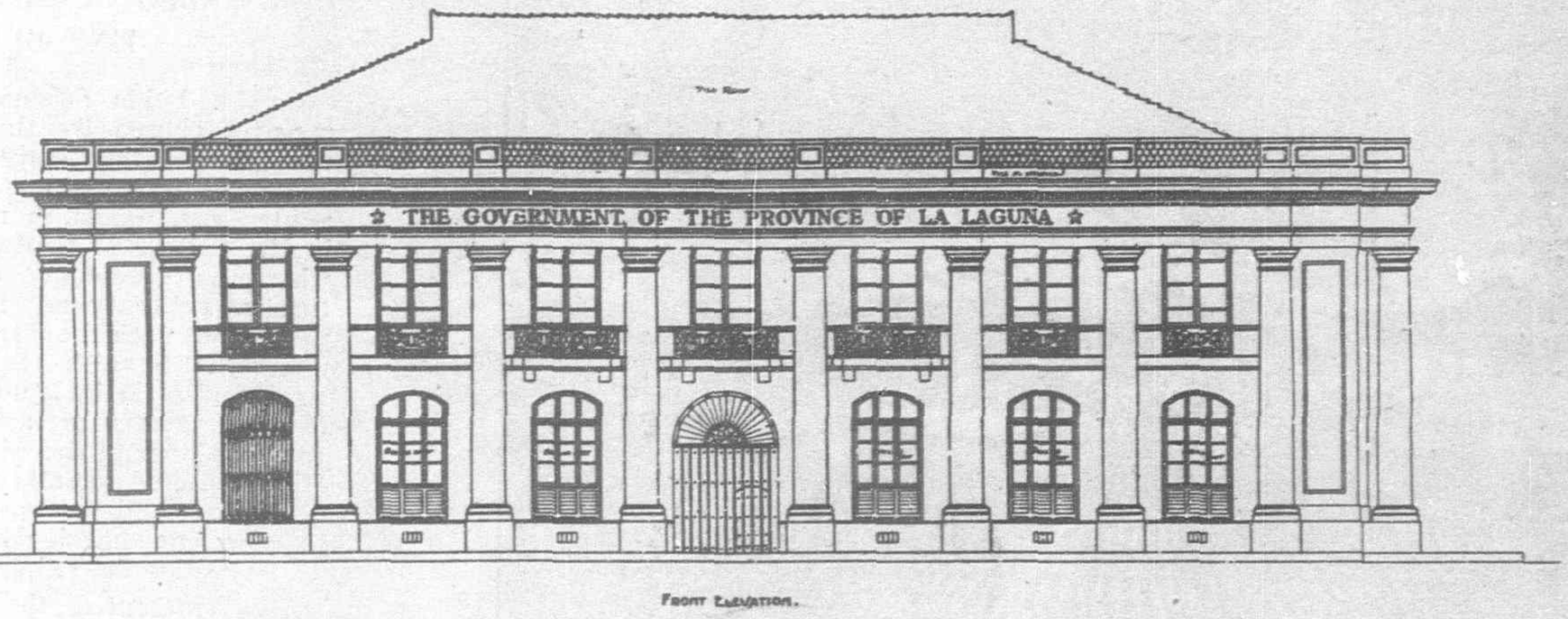
In every respect Mr. Taft's Shanghai visit was distinctly worth while. It is interpreted here to mean that his influence will be thrown to promote and protect American interests in China and to secure to our commerce equal opportunity. China, at present the shuttlecock of external desires and ambitions, and with her autonomy trembling in the balance, may also take heart to husband her strength and pursue the difficult path of reform and natural rehabilitation. Mr. Taft undoubtedly said some things which were unpalatable to many of his hearers, and to influential interests which have long fattened upon effete and unsound conditions in China; but his remarks were heartily approved by a majority of his hearers. In respect to his reiteration of America's policy toward the "open door," even representatives of those powers which are believed to be surreptitiously laboring to bring about a disruption of China were compelled, owing to the announced policies of their Governments, to applaud.

—THOMAS MILLARD.

PHILIPPINE PROVINCIAL GOVERNMENT BUILDINGS

Included in the program of permanent construction for the current fiscal year, provision has been made for a number of groups of provincial buildings at the capitals of the more progressive and prosperous provinces, where the need is pressing. Among them, the group at Santa Cruz, the capital of the rich province of Laguna, now under construction, is perhaps the most modern and is at least representative of the character of the provincial buildings proposed or under construction.

This group comprises the provincial capitol, provincial high school, pottery and trade school, and the reconstructed Constabulary barracks. The total estimate of cost for the completion of this group of buildings is approximately ₱200,000, of which one-half is provided for the construction of the provincial capitol building. All these buildinsg are to be built of reinforced concrete.

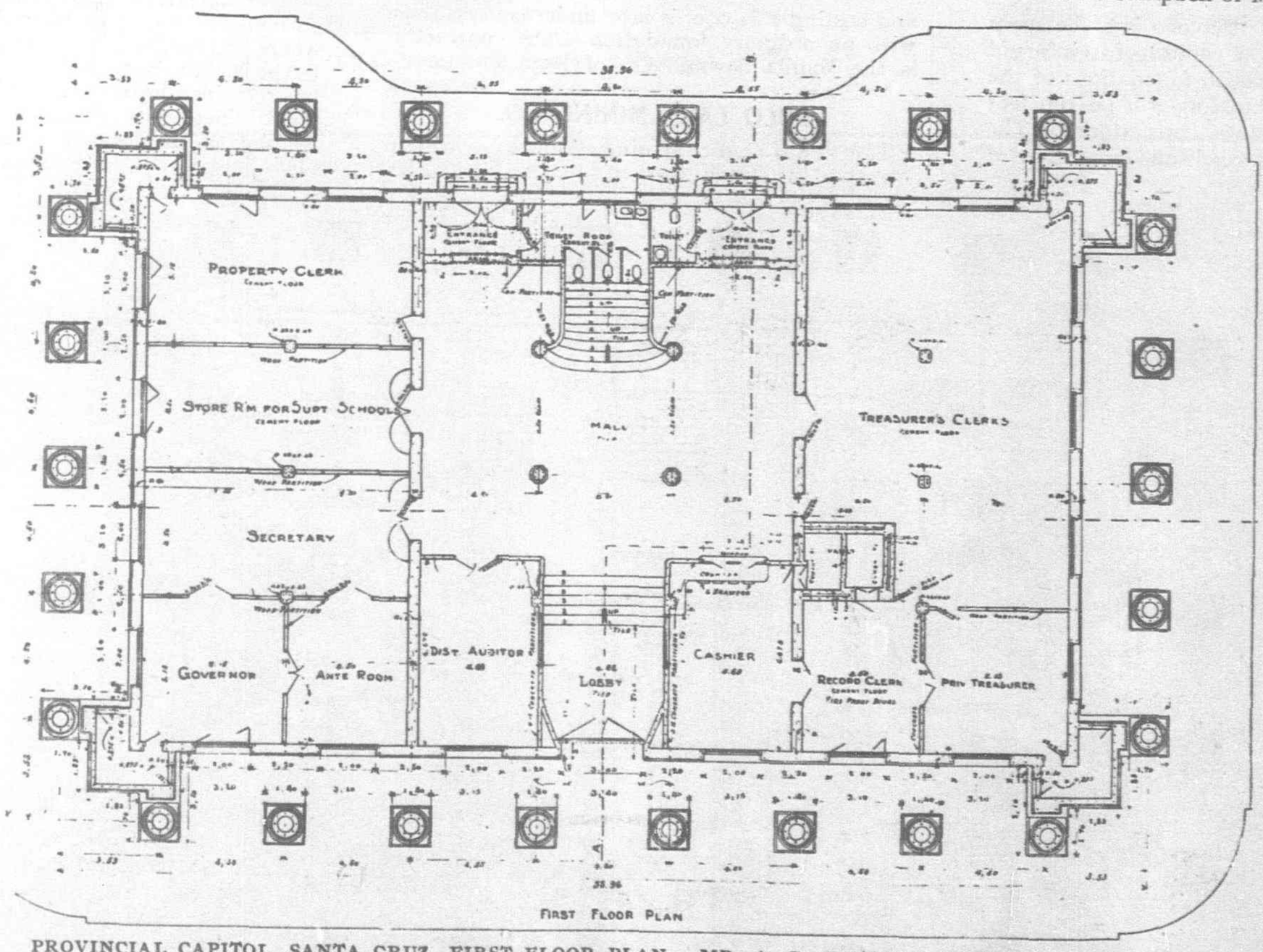


FRONT ELEVATION.

PROVINCIAL CAPITOL—MR. A. R. PARSONS, CONSULTING ARCHITECT

The provincial capitol at Santa Cruz de Laguna when completed will be a two story structure, 39 meters in length and 25 meters wide, surrounded by a colonnade. The first floor is to be divided up into spacious offices for the provincial governor, the provincial secretary, the district auditor, cashier, provincial treasurer and the property and record clerks. On the second floor will be the offices of the district engineer, provincial superintendent of schools, medical inspector, internal revenue agent, court of first instance, clerk of the court, the fiscal, and living quarters for the janitor.

This building, which is the model that is being followed in the construction of provincial buildings, is provided with an innovation in the way of foundation construction that has not been included in the plans of other proposed buildings. This is the spread concrete foundation which is substituted for the usual pile foundation owing to the character of the soil, with the same results, at the same cost and gets safe loading with more expedition. This mat foundation figures out as a reinforced continuous beam and distributes the load uniformly over the entire square. This foundation is now complete and a view of the initial work of construction appears in the illustration accompanying this sketch. More definitely explained the foundation plan was designed as a continuous beam with steel bending up under the supports to take the reversal of the trusses and in order to insure homogeneous results the concrete slab was poured continuously until the entire surface was completed. The pier footings were then built directly on top of the reinforced slab. By this method of construction the heavy concentrated pier loads were distributed over the underlying soil and limits the loading to one-half ton to the square foot, which was shown by actual test loading to be safe.

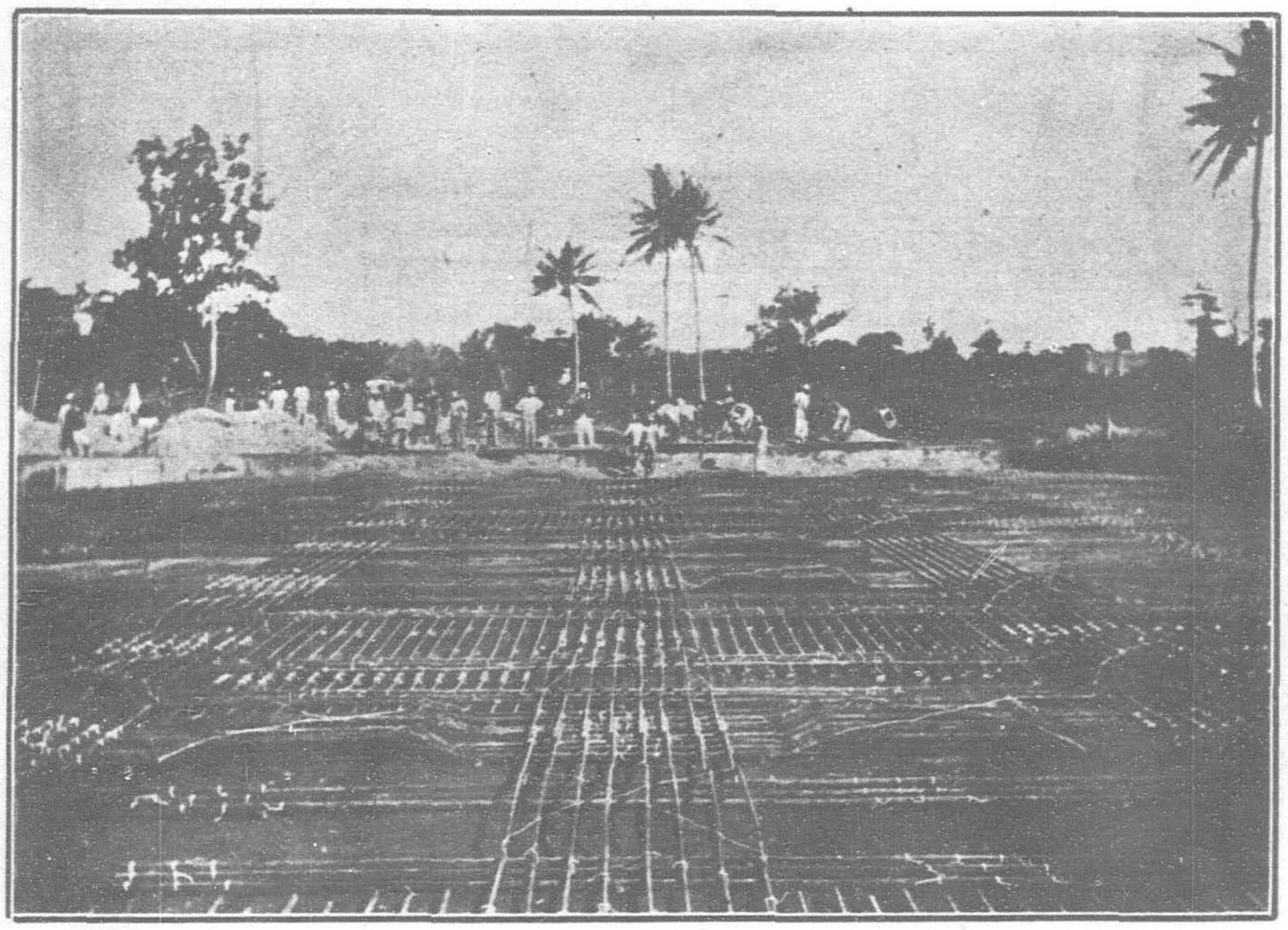


PROVINCIAL CAPITOL, SANTA CRUZ, FIRST FLOOR PLAN.—MR. A. R. PARSONS, CONSULTING ARCHITECT

Mr. O. F. Campbell of Manila is the contractor and District Engineer Westerhouse supervises the work, subject to the approval of an inspector of the Bureau of Public Works. It is expected that these buildings will be completed by the end of the present year.

The provincial buildings at Pasig for Rizal province are now in course of erection and the plans and specifications closely resemble those

of Santa Cruz with the exceptions that no colonnade is provided and pile foundations are being built. The capitol building is not quite so large as that of Laguna being 32.50 meters long by 23 meters in width. This building will cost when completed in the neighborhood of ₱100,000. Over 800 hardwood piles were required in the foundation work. R. M. Loper of Manila is the contractor.



RE-INFORCING BARS IN PLACE IN SLAB FOUNDATION, PROVINCIAL CAPITOL, SANTA CRUZ, LAGUNA, P. I.

In Albay province ₱60,000 is to be spent in the construction of a capitol of reinforced concrete on the old Spanish foundations of the provincial jail. This building will be 160 feet by 136 feet and include two stories. The contractors are Messrs. Cadwallader & Co. of Manila.

At San Fernando, the provincial capital of Pampanga, a reinforced concrete building similar to the Santa Cruz capitol with the exceptions that no colonnade is included, the foundation is on solid ground and the cost 60,000, pesos. The contractor is J. W. Gray of Manila.

At Lucena, the provincial capital of Tayabas, a capitol, to be built of reinforced concrete and costing ₱84,000, is now under construction with an ordinary foundation. The contractor is the Manila Sawmill Co. of Manila.

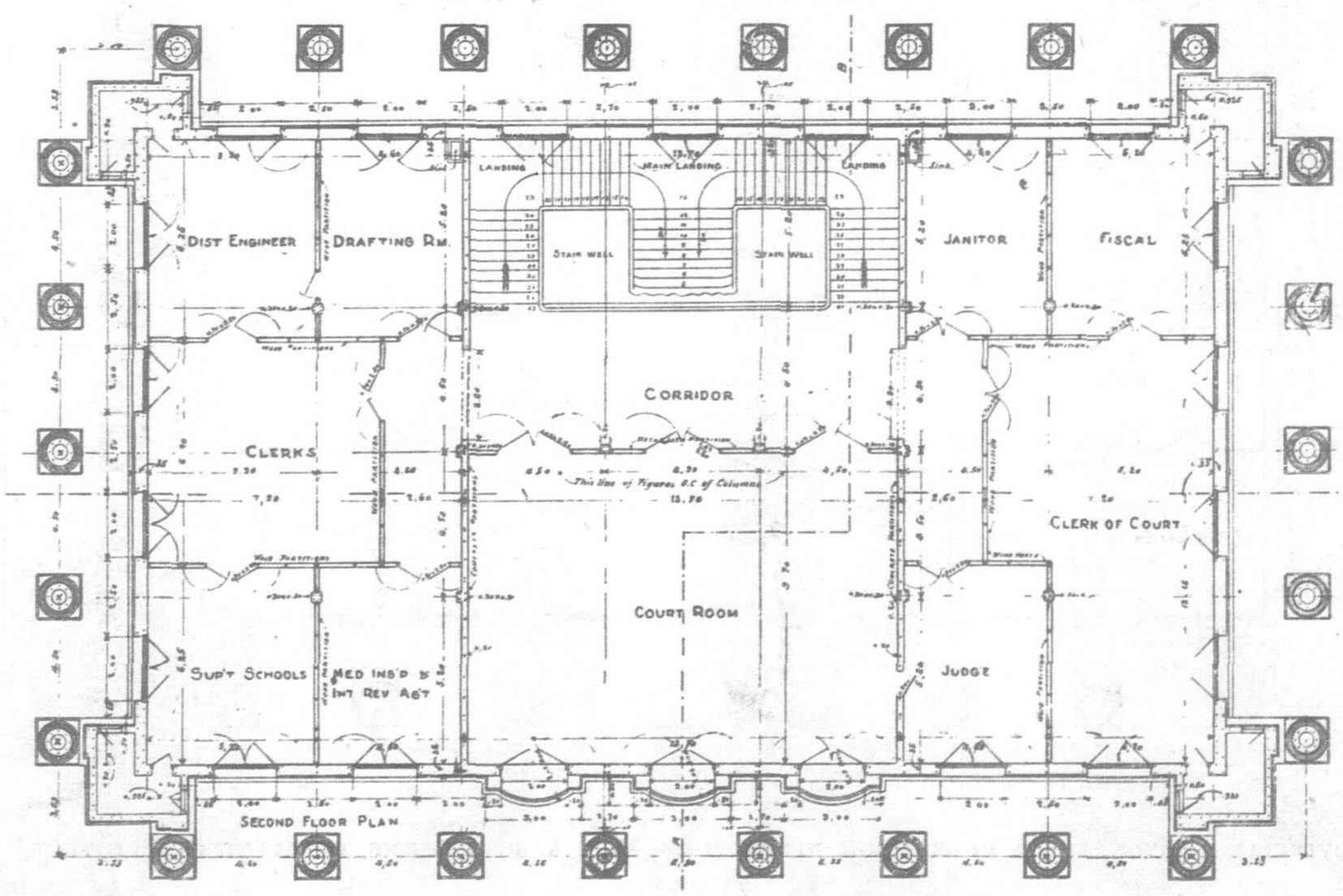
PULO LAUT MINING CO.

The Pulo Laut Mining Company, which operates in Dutch Borneo, has published its report for 1906. Coal of excellent quality is now drawn from deeper lying seams, and the mining work met with no difficulties. The output increases continually, and the demand for the coal grows steadily, both on the spot and in the market. During the year under report, 19,277 tons of coal were shipped to Singapore, and 30,468 tons to Hongkong. About 100 steamers took in coal during the year. These included 41 large seagoing vessels, of which 17 were British, 13 Dutch, seven Norwegian, three Danish and one German.

HON. PABLO OCAMPO DE LEON, PHILIPPINE DELEGATE

Sr. D. Pablo Ocampo de Leon, who was recently chosen by the Philippine Assembly to represent that body as a delegate to the American Congress, was born in the district of Santa Cruz, Manila, in 1860, and was educated in the College of Santo Tomás, of that city, where he graduated, and was admitted to the bar February 1st, 1882. He practiced his profession until he secured the appointment under the Spanish regime of Relator de la Real Audiencia in Manila and later promotor fiscal or prosecuting attorney of the Court of First Instance of the District of Tondo, Manila. He was elected secretary of the Manila College of Lawyers and was on three occasions selected to represent that body at the Junta General de Abogados de Filipinas.

He represented the districts of Principe, Lepanto, Bontoc and Infante at the Malolos assembly, convened by Aguinaldo in 1898 and served as its secretary. While acting in this capacity he was professor of law at the University of Malolos. When the relations became strained between the revolutionary governments and Washington, Mr. Ocampo was chosen as a member of the delegation representing Aguinaldo that held several conferences with General Otis about the latter part of 1898 and previous to the outbreak of hostilities in 1899. Mr. Ocampo remained with the revolutionary forces until the organization was broken up, when he surrendered and was later deported to Guam where he remained two years. Upon his return to the islands, he took the oath of allegiance and has remained loyal to the United States government since that time. He is a prominent member of the Asociacion Economica de Filipinas, one of the leading native organizations of its kind in the islands. On November 22, 1907, at a session of the newly created Philippine Assembly he was elected delegate to represent that body at Washington and sailed for the United States early in December.



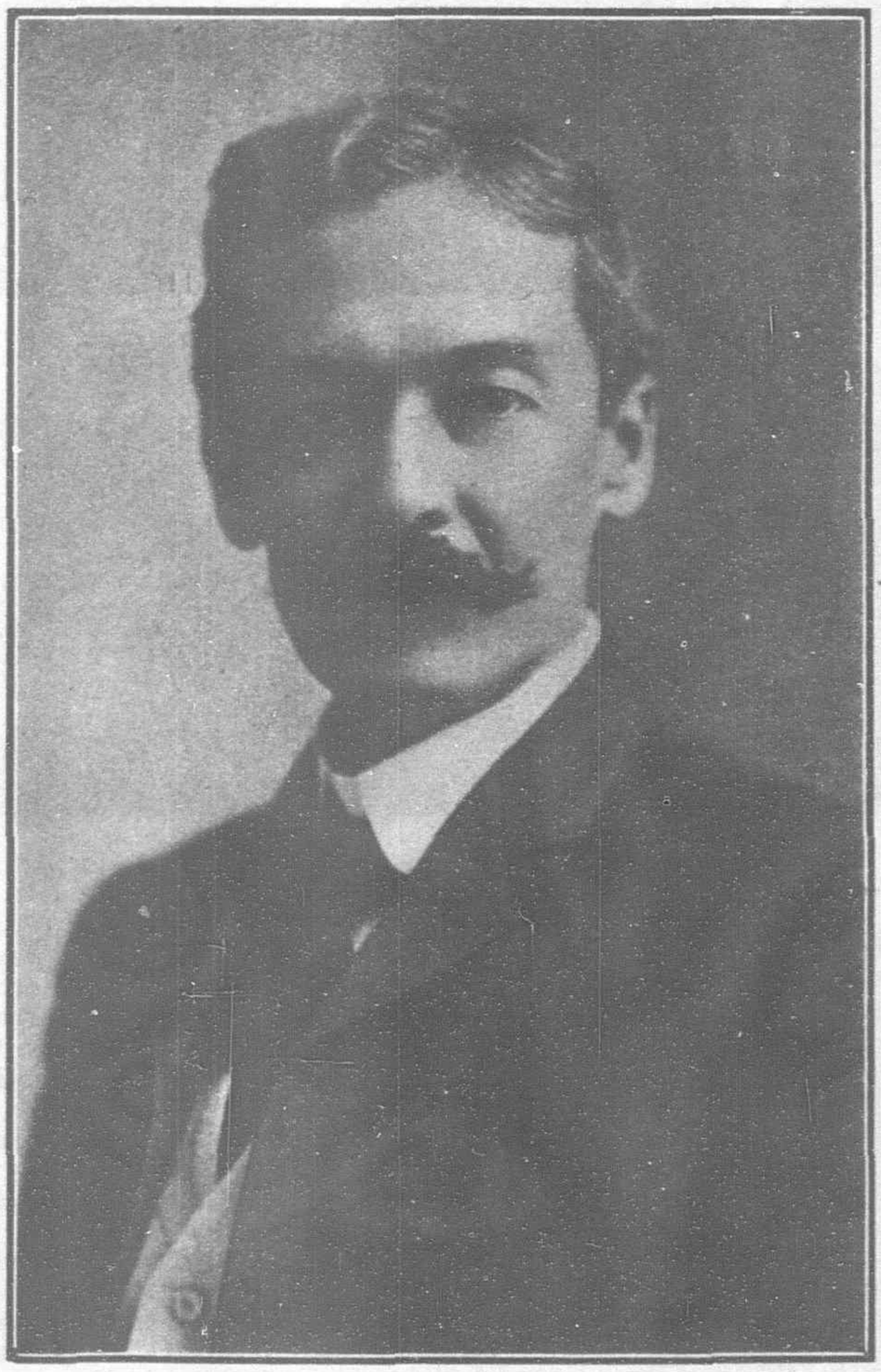
PROVINCIAL CAPITOL, SANTA CRUZ, SECOND FLOOR PLAN—MR. A. R. PARSONS, CONSULTING ARCHITECT

At Tuguegarao ₱30,000 is being expended by the district engineer in the construction of the provincial capitol of Cagayan de Luzon province. This building is also of reinforced concrete.

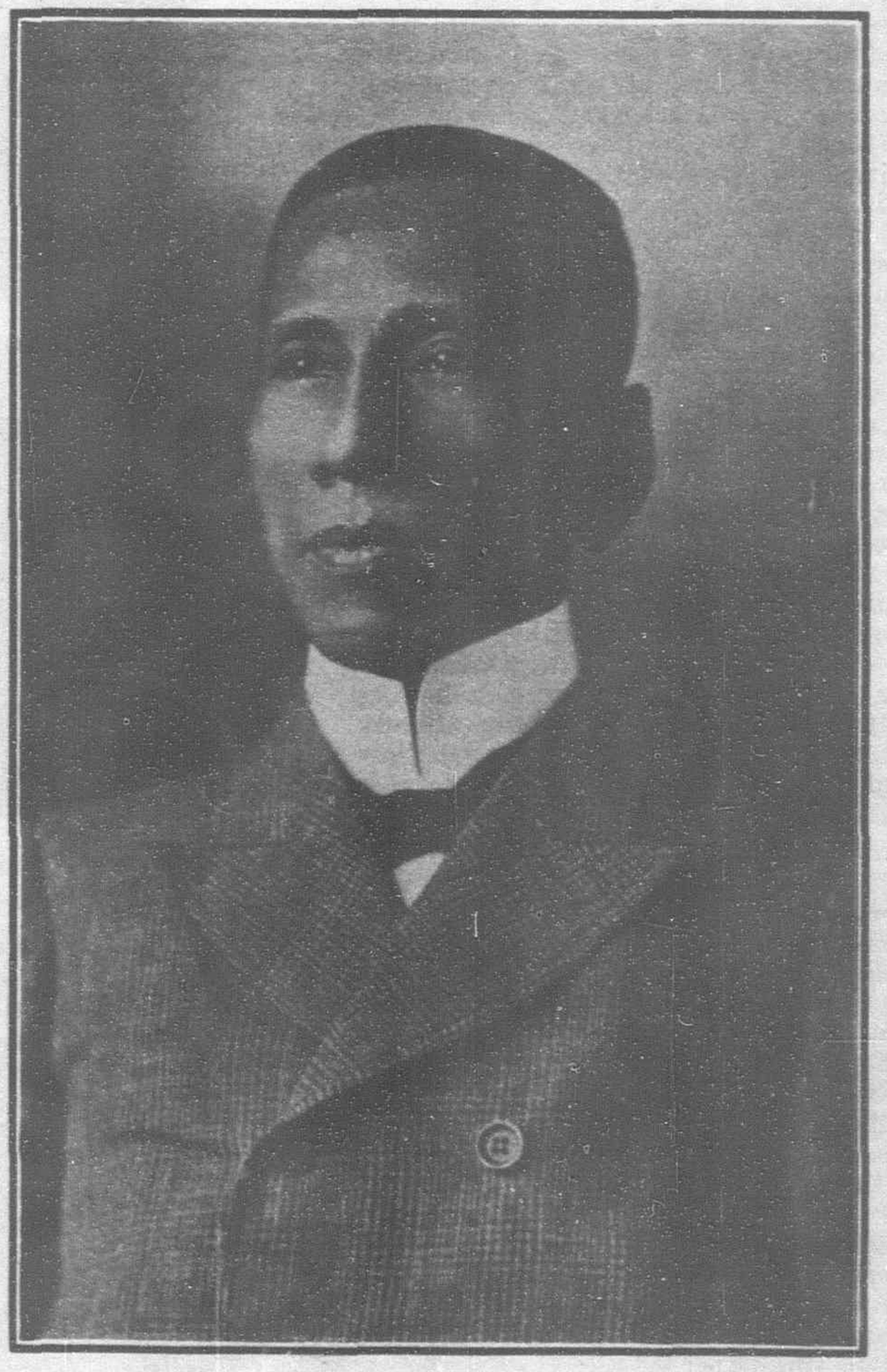
THE HON. SERGIO OSMEÑA, SPEAKER OF THE FIRST PHILIPPINE ASSEMBLY

THE HON. BENITO LEGARDA, PHILIPPINE DELEGATE

The Hon. Benito Legarda was born in Manila, September, 1853, and educated at the Ateneo de Manila, where he graduated with the degree of B. A. Later he continued his studies at the University of Santo Tomás, Manila, where he received the grade of Licenciado de Jurisprudencia. When the revolutionary government was organized at Malolos, Mr. Legarda was identified with it and held many of the most important positions. In December, 1898, when he saw that the revolutionists were controlled by the war element and hostilities against the United States were imminent, regardless of his effort to avert such a calamity, he renounced his allegiance to the Malolos government, and proved a consistent and loyal friend of the American government since that time. He made many enemies among the insurgent leaders when he threw his influence with the constituted authorities, but his sincerity of purpose has long since been recognized by the representative classes, and when his name was presented for delegate there was not a dissenting voice. He accepted the appointment of commissioner when Governor Taft organized the civil government and held that position continually, until selected as delegate to Congress by the commission to represent the Filipino Legislature, November 22, 1907.



THE HON. BENITO LEGARDA, PHILIPPINE DELEGATE TO U. S. CONGRESS



THE HON. PABLO OCAMPO DE LEON, PHILIPPINE DELEGATE TO U. S. CONGRESS

PHILIPPINE WOODS

In the *Philippine Journal of Science* for October there appears an interesting and exhaustive article on Philippine woods by Mr. Fred W. Foxworthy of the Botanical Section of the Biological Laboratory, Philippine Bureau of Science, in which he gives a most complete classification of the different woods of the archipelago with their descriptions and commercial values and illustrations. Following are a number of excerpts from Mr. Foxworthy's article which will be of interest:

"Much misinformation is current as to the names and characteristics of our native woods. A wood is often variously designated in the same or in different provinces and again, several different kinds are frequently found under an identical name, for example molave (*Vitex* spp.) has more than forty different names in the Archipelago, and this multiplicity of names for the same wood naturally results in confusion which is very much increased when, as often happens, the same name applies to different woods in different localities. This makes it very easy for the unscrupulous dealer to substitute a poor quality for a better. There is evident need of some quick and sure way of identifying the woods needed for furniture, construction, and other purposes, and therefore it has seemed desirable to prepare a brief guide and description of those which are found in commercial quantities in the Manila market. This has been a task of some difficulty, because of their large number and the unsteady and uncertain supply of any one species at any given time.

"There are about sixty-five commercial woods furnished by about one hundred species which are nearly always to be found in Manila, and in addition, there are several times as many which may occasionally be brought here in small quantities, so that the resulting complication is considerable. It follows that the chances for error are very great; so that this paper at best can be only preliminary to the more complete work indicated by the title."

"CLASSES OF WOOD.—All woody plants may be grouped according to their stem structure and botanical relationships as *Pteridophytes*, *Monocotyledons* (*Endogens*), and *Exogens*.

"*Pteridophytes*.—The hard tissue is scattered in large, irregular bundles through the stem; the latter is uneven, being made up of soft and very hard material. *Tree ferns* are included in this class; they do not come into the market, but the trunks of certain species are used locally in Benguet and elsewhere in northern Luzon as posts for houses.

"*Monocotyledons or Endogens*.—The wood is composed of scattered, small bundles of hard, woody tissue, the interspaces being filled with soft tissue. This group includes the *bamboos*, *palms*, *pandans*, etc.

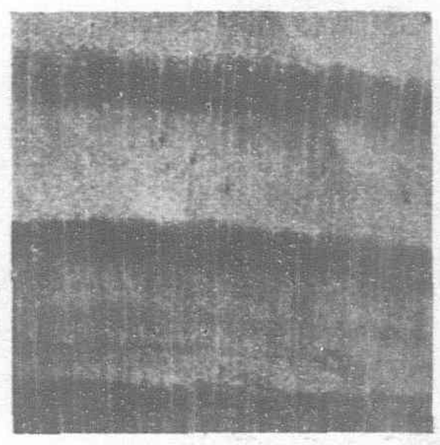
"*Bamboos*.—No work on the woods of the Philippine Islands would be complete without some mention being made of the bamboos which furnish so large a part of the structural materials of the Archipelago. Several different species are used, but they all agree in having the peculiar monocotyledonous structure already described, modified by the stem being hollow and jointed. They also contain a considerable proportion of silica.

"The *palms* do not have jointed stems and are not hollow, but the central part of the stem is usually very soft and brittle. From the outer part, which is very hard and which will take a high polish, canes, bows, and other articles are made. Palma brava (*Livistona* spp.) and the coconut palm (*Cocos nucifera* L.) are the ones most used. Some palm stems are also suitable for the manufacture of small ornamental pillars, where the top and bottom are not exposed to the air, and where the defective nature of the inner part of the stem is not displayed. Palms are also to some extent used for flooring and for corner posts of houses.

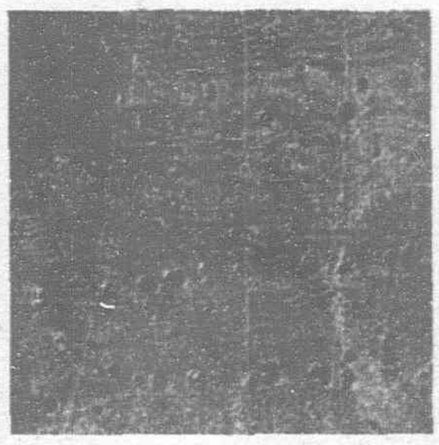
"The *bejucos* and *rattans* (*Calamus*, *Daemonorops*) also belong in this group, but as they occur in such small dimensions they are not considered in this paper.

"The *pandans* or *screw pines* (*Pandanus* spp.) are widely distributed throughout the Archipelago. They are from a number of different species of the genus *Pandanus*.

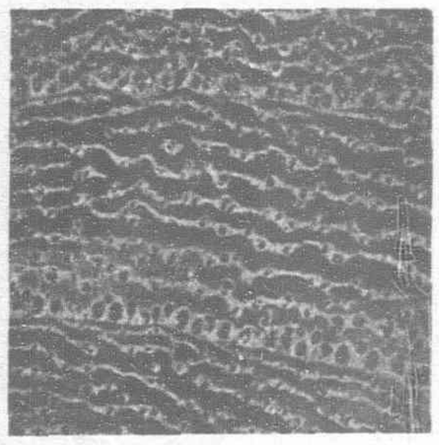
"The outer part of the stem of the *Pandanus* is usually very hard. I do not know of its commercial use here, but in some Pacific Islands it furnishes an ornamental wood similar in texture, but inferior in finish, to that of the coconut (*Cocos nucifera* L.) and palma brava (*Livistona* spp.)



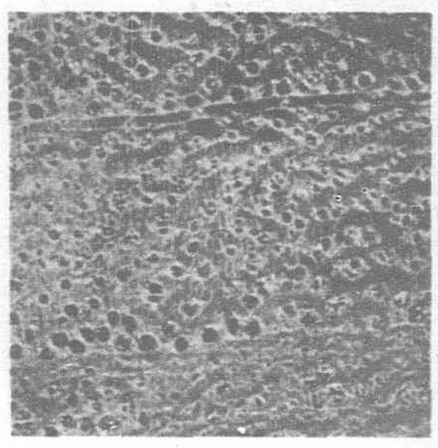
BENGUET PINE



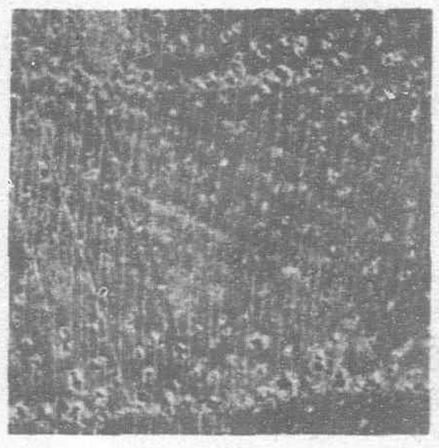
NARRA



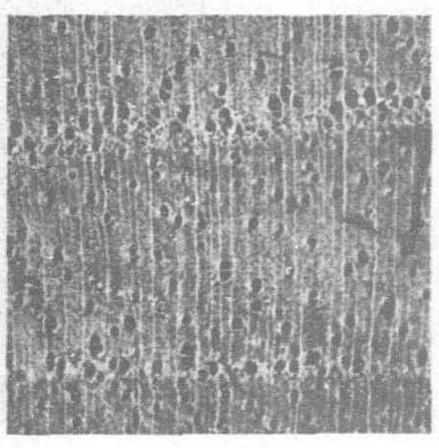
BANABA



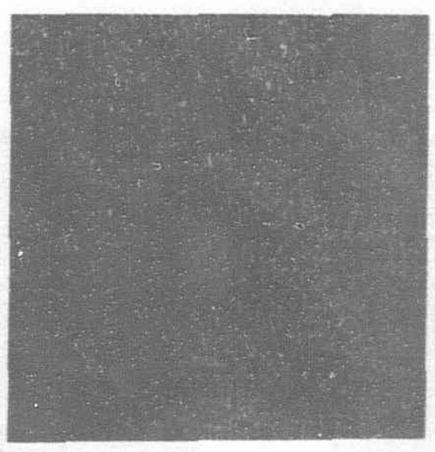
BATITINAN



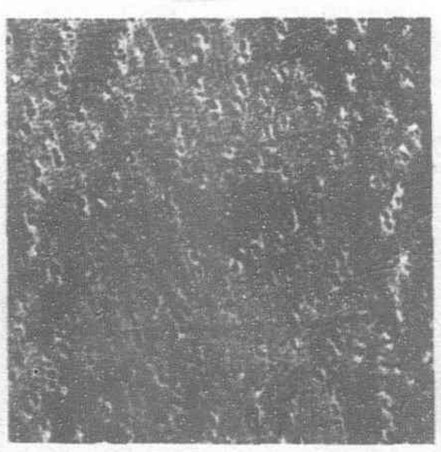
TEAK



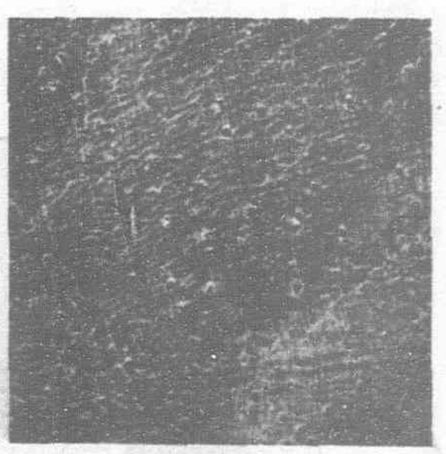
CALANTAS



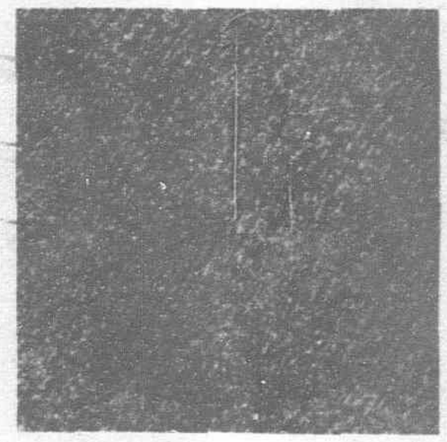
DITA



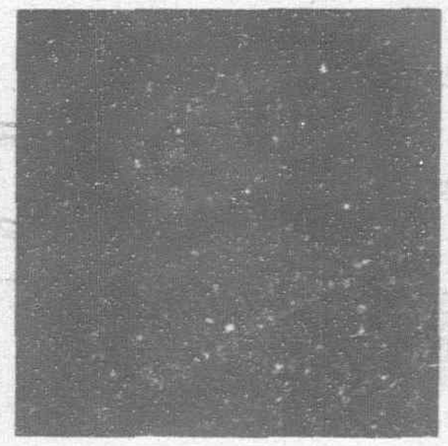
BETIS



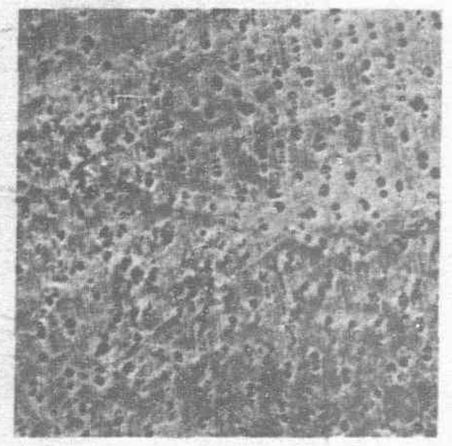
LIUSIN



TAMAYUAN



DUÑGON



BALACAT

Exogens.—The remainder of our woody plants may be grouped together as *Exogens*; that is, the stem consists of a woody cylinder which grows in diameter by the addition of concentric layers about the wood already formed; there are two great groups; the *Gymnosperms*, or *Conifers*, and *Angiosperms*, or broad-leaved plants. These may be distinguished as follows:

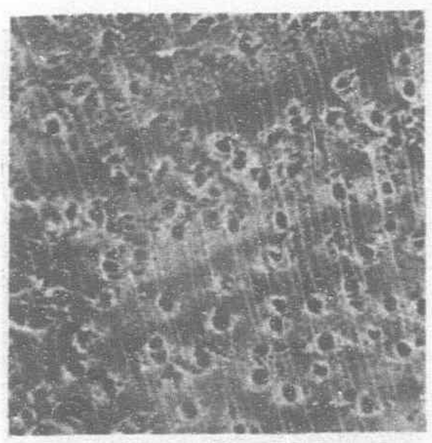
Conifers.—Wood, except in the first layer about the pith, containing no vessels; that is, non porous; exceedingly regular in structure. There are a number of *Conifers* native to the Islands, but they are scattered in small patches or in almost inaccessible places on the mountains. The only native *Conifer* that is cut at all for timber is the Benguet pine (*Pinus insularis* Endl.) and it scarcely comes into the Manila market at all. However, a large amount of coniferous wood is imported: nearly all of this is California redwood or Oregon pine, although an occasional piece of coniferous timber from Australia, Japan, or China is encountered.

"*Angiosperms*.—The remaining group, the broad-leaved trees, furnishes practically all of the Philippine wood found in the lumber yards, and further discussion will apply to woods of this group unless otherwise indicated."

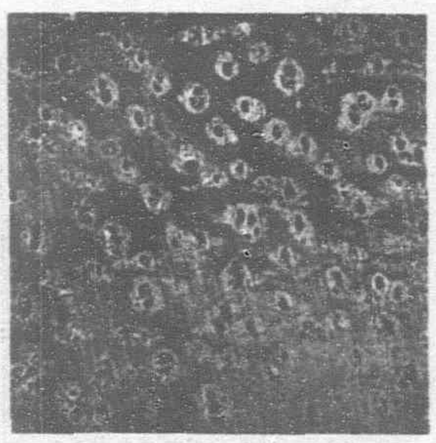
"GRAIN.—This is the figure presented by the structure of the wood. It is fine or coarse, straight or crooked, according as the elements

of the wood are coarse or fine, crowded or loosely put together, straight or twisted. The best grain of the wood is brought out by careful attention to the cutting. The occurrence of a knot or branch, an irregularity in the trunk or root, or some local imperfection in the wood, may produce a regional modification of the grain, causing what is known as curly, or bird's-eye grain, or burl. Specimens showing the latter are at times very pretty and are much prized for certain classes of furniture. One of the best-known modifications of the grain is found in the large buttresses or buttress roots of some of our trees; some of these are of sufficient size to furnish single-piece table tops. Narra (*Pterocarpus* spp.) is probably the most widely known for this purpose, but we have a number of different trees showing this habit. Tindalo (*Pahudia rhomboidea* Prain), palo maria (*Calophyllum* spp.), tanguile (*Shorea polysperma* (Blco.) Merr.), calantas (*Toona* spp.) may be mentioned among the trees showing the fancy burl or bird's-eye grain.

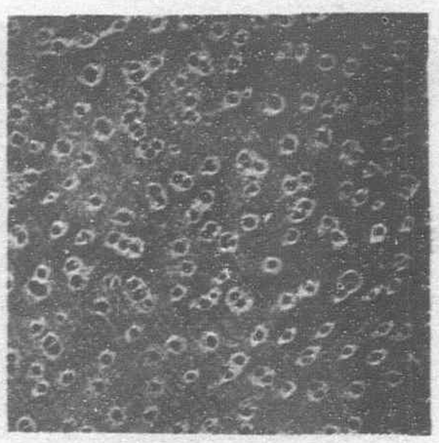
Spiral grain.—A tree in growing often takes a spiral direction as indicated by the twistings of the bark; this gives the grain a spiral twist and the wood, in splitting, shows a series of flutings. A moderately pronounced spiral or twisted grain is evident in a number of our woods which show a resistance to smoothing in planing and working. When planed in one direction, portions of the surface are smoothed and certain others are roughened, and when the operation is reversed, the smooth surface becomes roughened as the rough surface is smoothed. This irregularity of grain is often noticed in amuguis (*Koordersiodendron pinnatum*), lauan (*Shorea* spp.), guijo (*Shorea guiso* Bl.) and mayapis (*Anisoptera* spp.)."



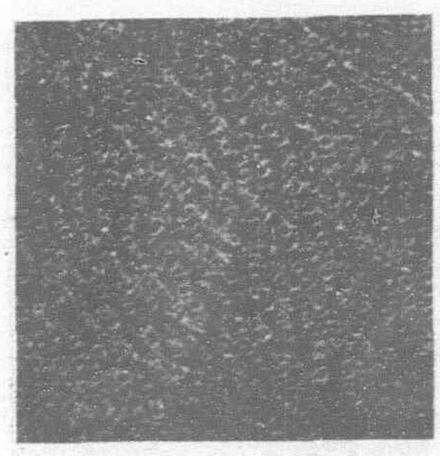
CUPANG



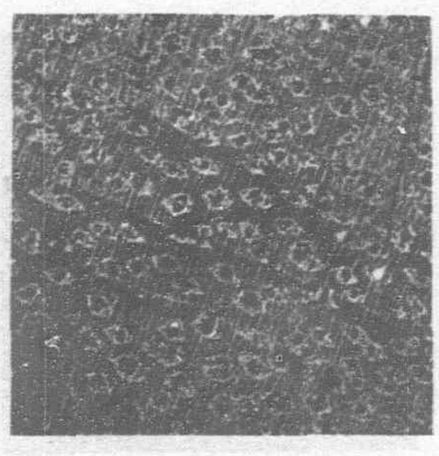
ACLE



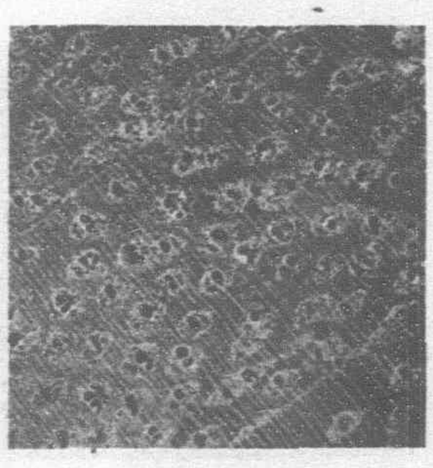
BANUYO



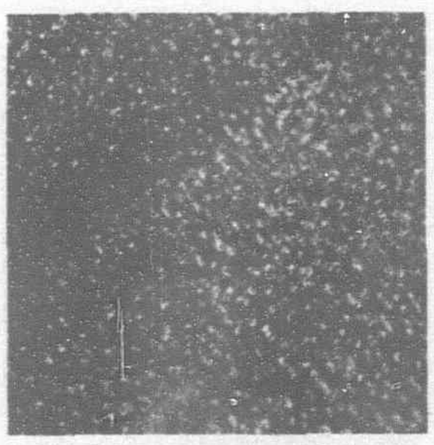
TUCAN-CALAO



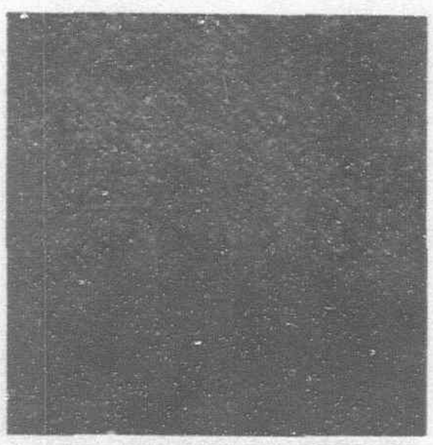
IPIL



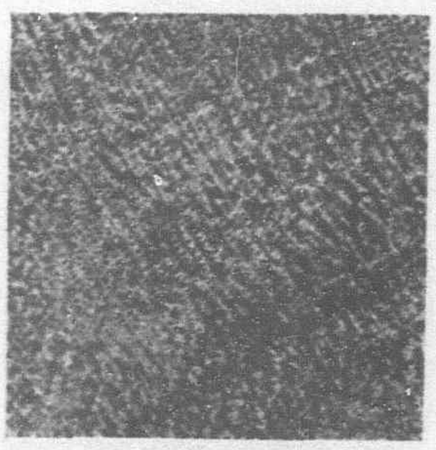
TINDALO



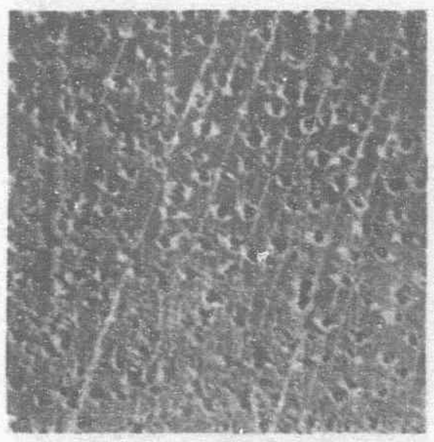
MOLAVE



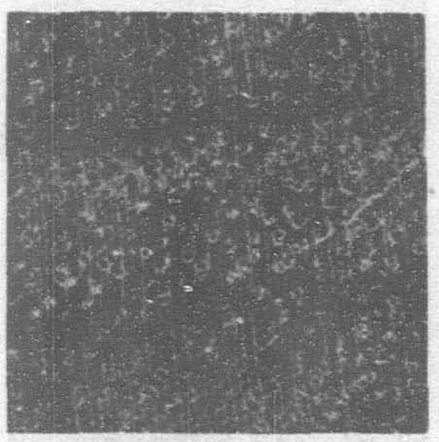
LANETE



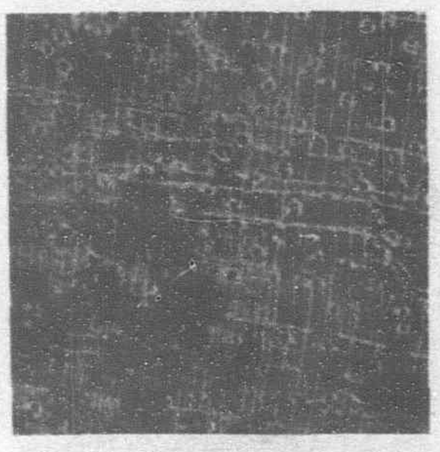
BATINO



ANUBING



SUPA



BATETE

"*Weight and specific gravity.*—We have quite a large number of heavy woods although perhaps not so large a proportion as is found in some other tropical countries. I have classified our woods as very heavy, heavy, moderately heavy, and light, following the classification used by Gardner. We have many woods which when green will sink in water, but the number of these which has a greater specific gravity than water when dry is relatively small. The following table gives a list of Philippine and American commercial woods, with their weight and specific gravity so far as known.

"The heavy woods which are italicized frequently come into the "very heavy" class:

Comparative weights of Philippine and American woods

PHILIPPINE WOODS

Very heavy Sp. gr. 0.90 or more Weight—Metric system, 900 kilos or more per cu. m.; English system, 56 lbs. or more per cu. ft.; Spanish system, 42 lbs. or more per cu. ft.	Heavy Sp. gr., 0.70-0.90 Weight—Metric system, 700-900 kilos per cu. m.; English system, 44-56 lbs. per cu. ft.; Spanish system, 32-42 lbs. per cu. ft.	Moderately heavy Sp. gr., 9.50-0.70 Weight—Metric, system, 500-700 kilos per cu. m.; English system, 31-44 lbs. per cu. ft.; Spanish system, 23-32 lbs. per cu. ft.	Light Sp. gr., 0.50 or less Weight—Metric system, 500 kilos or less per cu. m.; English system, 31 lbs. or less per cu. ft.; Spanish system, 23 lbs. or less per cu. ft.
Mancono*	*Dungon**	Narra*	Lauan*
Dufigonlate†	*Ipil**	Acle*	Baticulin
Ebony	Molave*	Teak†	Calantas*
Camagon	*Yacal**	Guijo*	Mayapis*
Bolongeta	Tindalo*	Apitong*	Red lauan*
	*Betis**	Amuguis*	Dita*
	*Bansalaguin**	Palo maria*	Cupang*
	Supa*	Banaba	Teluto
	Macaasin*	Anubing	Malapapaya
	Batitinan*	Bancal†	
	*Aranga**	Tamayvan	
	*Sasalit**	Sacat*	
	*Liusin**	Malasantol*	
	Tucan-calao	Balacat*	
	Alupag	Malugay*	
	Catmon*	Banuyo*	
	*Agoho**	Tanguile*	
	Calamansanay	Lanete	
	Mangachapuy*	Duguan	
	Batete	Santol*	
	Lanotan*	Nato	
		Dalinsi	
		Calumpit	
		Talisay†	
		Balinhasay	
		Lumbayao*	
		Batino	

*The specific gravity of these woods was obtained from tests made in Manila.

†These woods were grouped by data found in Gamble's Manual of Indian Timbers.

AMERICAN WOODS*

Very heavy	Heavy	Moderately heavy	Light
	Hickory	Ash	White cedar
	White oak	White elm	White pine
	Red oak	Sweet gum	Whitespruce
	Persimmon	Hard pine	Bald cypress
	Osage orange	Cherry	Red cedar
	Black locust	Birch	Hemlock
	Hackberry	Maple	Redwood
	Blue beech	Walnut	Oregon pine
		Sour gum	Basswood
		Coffee tree	Chestnut
		Honey locust	Butternut
		Tamarack	Tulip
		Douglas spruce	Catalpa
		Western hemlock	Buckeye
		Soft maple	Poplar
		Sycamore	Willow
		Sassafras	
		Mulberry	

*The classification of American woods was taken from Roth's Bull. Timber., U. S. Bur. of Forestry (1895), 10.

Resonance.—We have no commercial wood in the Islands which is suitable for making good sounding boards. Imported coniferous wood is usually used for this purpose in guitars and other stringed instruments of local manufacture, the backs and sides of the instruments being made of lanotan (*Bombycidendron campylosiphon* (Tez.) F. Vill.), lanca (*Artocarpus integrifolia* L. f.) or other even-grained ornamental woods.

Moisture content, shrinkage, seasoning.—Wood is much heavier when green than when dry, because of the large amount of water which it contains; air-dry it still holds 8 to 10 per cent of moisture and even when it is kiln-dried there is usually some water left in it. It is exceedingly hygroscopic; a piece which has been very thoroughly dried will, if placed in a moist place, take up enough water to equalize its moisture content with that of the surrounding air. This capacity for taking up water is responsible for the swelling and warping of timber. The loss of water from the wood causes shrinkage and where this is uneven, checking.

Seasoning.—The process by which water is gradually removed from wood is known as seasoning. In seasoning, certain chemical and physical changes take place which render the wood stronger, more durable, and usually harder and heavier. The nature of these changes is rather imperfectly understood, but it seems probable that certain materials contained in the pith-ray and wood parenchyma cells become changed into tannins, resins, and other substances which have a preservative and strengthening effect. When properly seasoned a wood is always stronger than it is when unseasoned. There may be several kinds of seasoning, as follows:

Natural seasoning taking place in the tree.—This results in the formation of heartwood by the means already indicated. A loss of water occurs simultaneously with the chemical change taking place, and the deposit of certain substances in the cells more than counterbalances the loss in weight, so that the heartwood is specifically heavier, although lower in moisture content, than the sapwood. This change from sap- to heart-wood is very important in considering the value of a timber. Sapwood seems incapable of equaling heartwood, no matter how carefully it may be handled after leaving the tree.

Artificial seasoning.—In the standing tree: In some cases, as for instance in the teak forests in India, the tree is girdled and then left on the stump for a year or more before being cut. It is claimed that the disadvantages of this method are that the resulting wood is more brittle than if it is seasoned in the usual way, and moreover, during the process it is more exposed to the attacks of burrowing insects. To offset this there is the advantage of rapid seasoning with but little checking. For some species this is probably the best method.

In the log: Material left to season in the log usually becomes noticeably checked. Rapid seasoning is most safely accomplished in pieces of small dimensions.

By air-drying: The greater part of our material is air-dried—that is, seasoned by standing in piles of lumber exposed to the air. If properly piled, the process will proceed at a fairly rapid rate and the checking will be very slight. The pile should be so arranged that the air can reach the wood from all sides.

By kiln-drying: This is accomplished by means of a controlled supply of artificial heat. Kiln-drying is resorted to whenever it is desired to reduce the percentage of moisture below that of air-dry wood or whenever especially rapid seasoning is required. If the operation is carefully performed, the wood is seasoned with a minimum amount of checking; it is made stronger and is less liable to decay. Of course kiln-dried wood will take up moisture from the air, but it will not absorb it in as great quantity or as rapidly as the air-dried material; therefore, it actually remains drier than wood which has been seasoned in the air. The best results are obtained by prolonged and careful air-drying, followed by kiln-drying. If properly handled, wood is always improved by being kiln-dried. Unfortunately, the process is not as much practiced with the native woods as it should be.

Seasoning in fluids: Timbers sometimes are submerged in sea water for years before being dried, additional strength and durability apparently being given to them. For many years this has been the process with oak used for shipbuilding in England. Of course this method of seasoning can only be employed where the material can be so submerged as to be free from teredo attack. Timbers occasionally are encountered which have had a part of their seasoning in fresh water or in the mud at the bottom of fresh-water streams or lakes, an example being the swamp cypress logs which are raised from the mud of rivers and bayous in the southern United States, after having lain there for many years.

Small pieces of woods for certain purposes are *seasoned in oil or other fluids*. All these methods of submerging woods during seasoning have the very great advantage that the process is thereby made a very gradual and uniform one, checking being reduced to a minimum. However, these methods are suited only to special cases.

Heating power.—This varies with the content of carbon and contained resins, oils, etc. Our best firewoods are usually those with very thick, dense cell-walls.

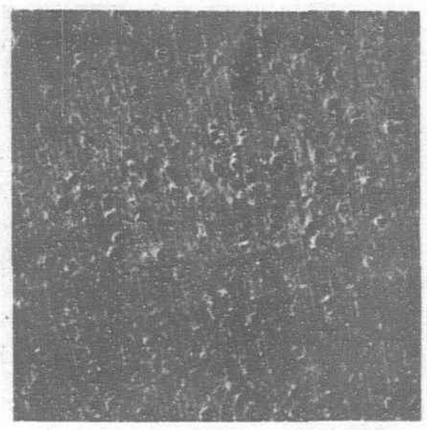
3. DURABILITY AND DECAY.

Fungi and bacteria.—These grow abundantly in warm and moist situations. Wood which is partly submerged, or in contact with the ground, is most subject to the attack of these organisms, a continual supply of moisture favoring their development. Piling, railroad ties, and portions of buildings in contact with the ground give the best illustrations of destruction by these means, but while wood is always liable to damage from these causes, they are not the most serious considerations in this climate.

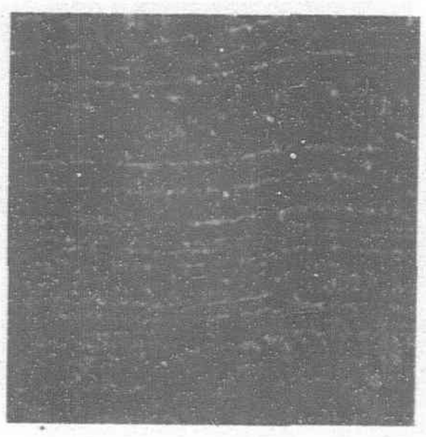
Beetles.—Woods frequently are encountered which are completely riddled by the burrows of wood-boring beetles; these extend in all directions and very perceptibly weaken the wood. The presence of beetles is indicated by the open burrows or by fine woods dust pushed out from them. It is said that no woods are entirely immune from bettle attack. In the very hard woods, however, it is usually only the sapwood which is affected. Logs left in the forest or piled with beetle-eaten material are most subject to attack. Certain woods, such as dita (*Alstonia scholaris* R. Br.) and lanete (*Wrightia* spp.), are particularly liable to be damaged in this way. No entirely satisfactory means of preventing beetle attacks has as yet been found.

Anay or "white ants."—Termites, very generally known in the Islands as *anay*, destroy a great many of the softer woods, completely hollowing them out until only a shell is left.

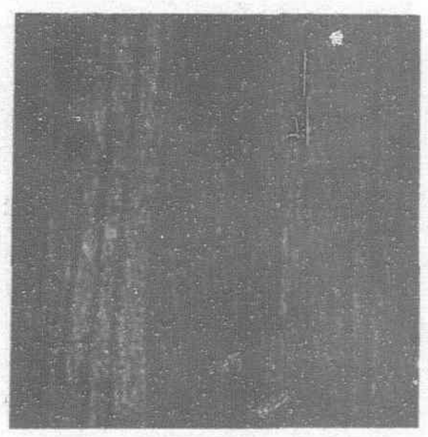
Shipworm or teredo.—This is the most serious enemy to piling, boat keels, and other wooden articles which are immersed in sea water. The work of these small animals constitutes so serious a nuisance as to render any but a very few of our very hard woods useless for piling.



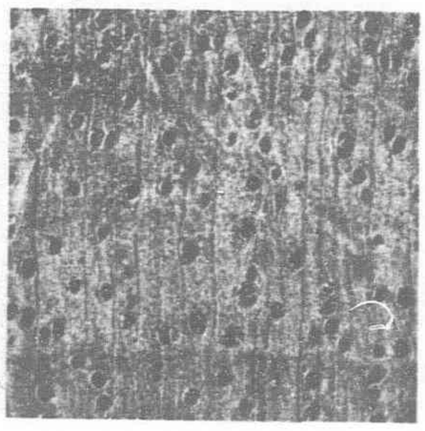
MALUGAY



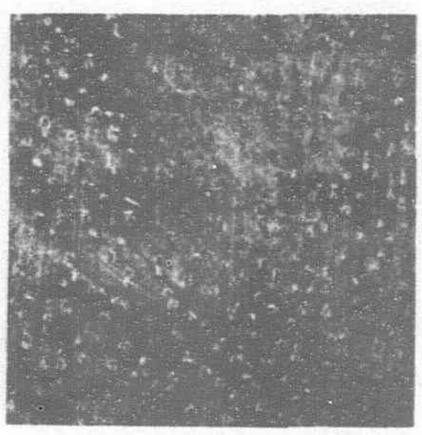
DUGUAN



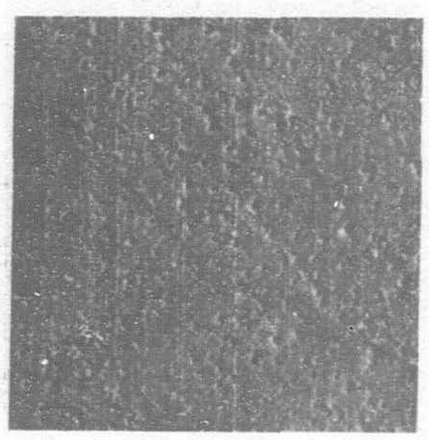
LANOTAN



LUMBAYAO



AMUGUIS

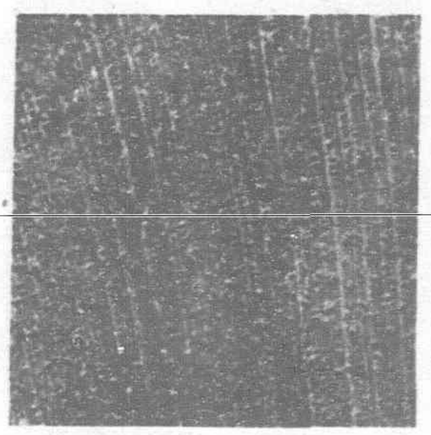


SACAT

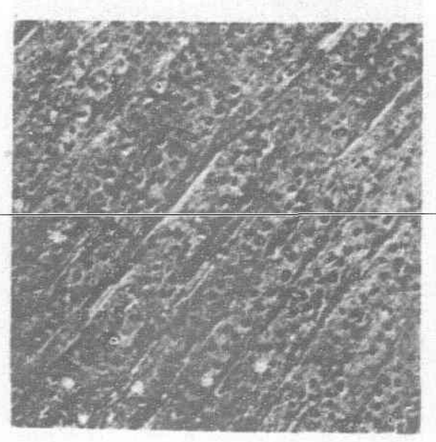
ALUPAG

SANTOL

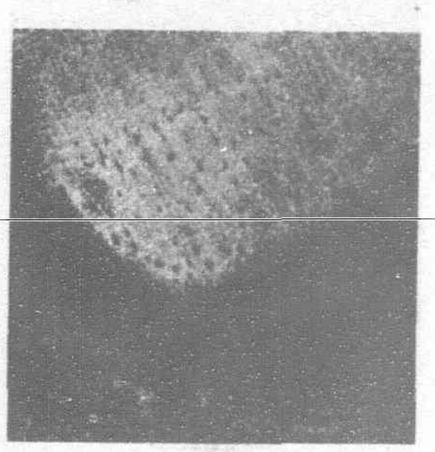
TELUTO



MALAPAPAYA



CATMON



EBONY

IMMUNITY FROM ATTACK.

Hardness.—A few woods, such as mancono (*Xanthostemon verdugonianus* Naves) for piling and molave (*Vitex* spp.) for house construction, seem to be immune from attack because of their hardness. As a rule the hardwoods are very much freer from insect and teredo attack than are the soft kinds.

Taste and odor.—It seems probable that some woods may be safe from insects because of a taste or odor which is not agreeable to the invaders. This is supposed to be the case with calantas (*Toona* spp.).

IMPREGNATION AND OTHER ARTIFICIAL MEANS OF DEFENSE AGAINST INSECTS AND TEREDO.

Creosoting.—Creosoting, in the very few cases in which it has been tried in the Islands, has been very satisfactory, but it can not as yet come into common use because of the present prohibitive cost of creosote in Manila.

Impregnation with mineral salts may prove effective, if some way can be found of precipitating the salts in the wood so that they will not leech out under the action of this climate.

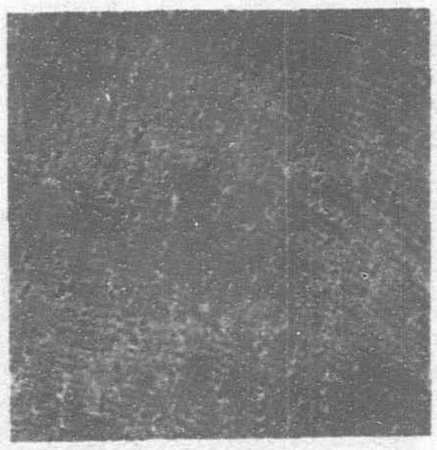
Painting a wood has proved effective so long as the painted surface does not become cracked.

There is further need of experiment to determine what Philippine woods are most immune to insect and teredo attack, and what are the best artificial means of defense.

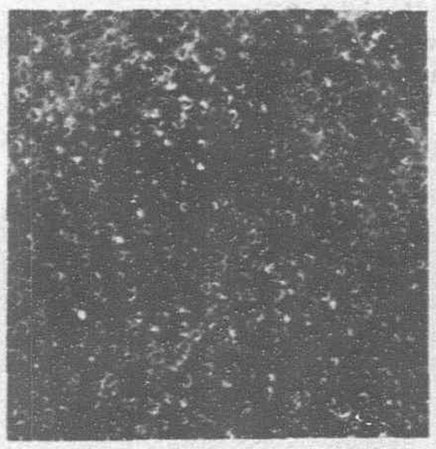
USES OF PHILIPPINE WOODS.

While complete tests have not been carried out for any Philippine woods, certain of them have been found to be particularly well fitted for especial uses, and the effort is here made to group the woods of commerce according to their use.

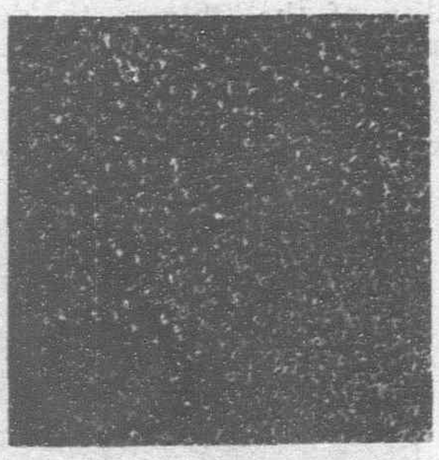
1. *In places exposed to salt water and teredo attack.*—For piling: Liusin, betis, aranga, mancono, banaba, batitinan, bolongeta, duñgon, dufigon-late, mangachapuy, molave, and yacal are used; but the first four mentioned give the best satisfaction.



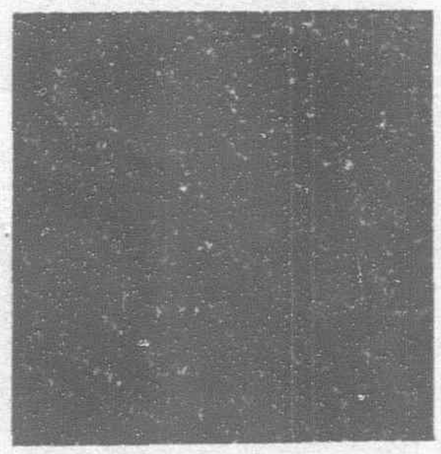
NATO



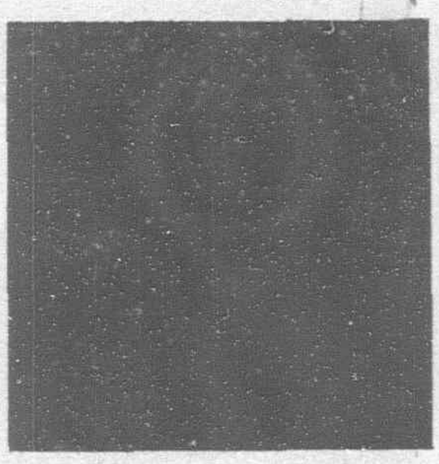
AGOHO



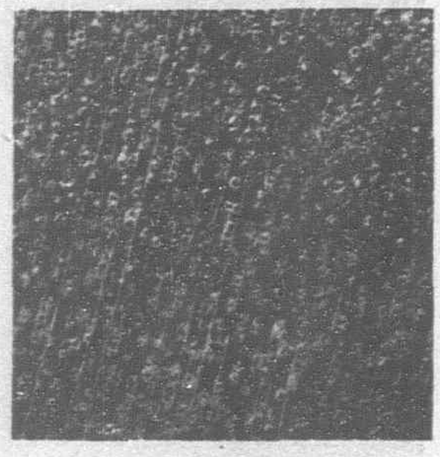
MACAASIN



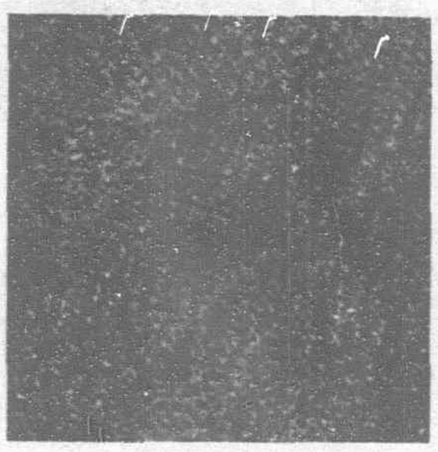
PALO MARIA



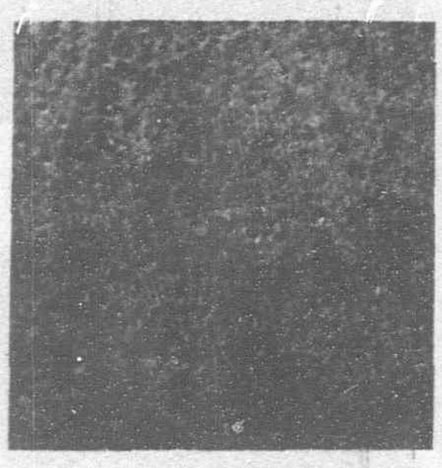
MANCONO



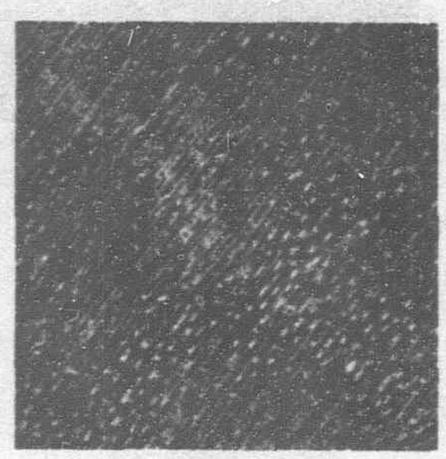
SASALIT



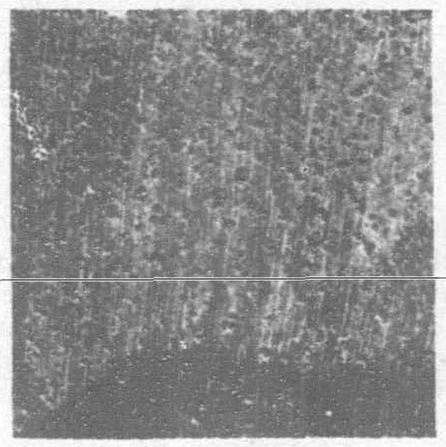
CALAMANSANAY



BANCAL

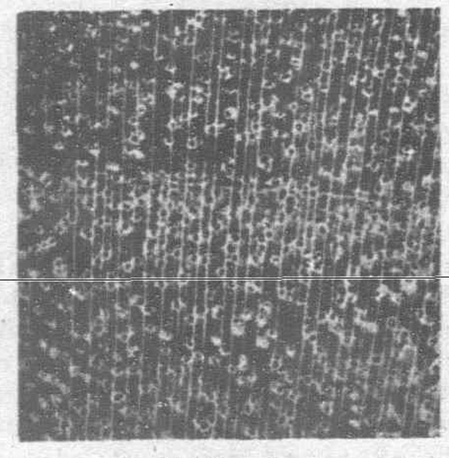


ARANGA



MALASANTOL

BATICULIN



MANGACHAPUY

In addition to these there is agoho, which by its great hardness and its normal, tapering shape seems to be well fitted for piling. It seems not yet to have been tried for that purpose.

For ship and boat building: Teak, usually of the first importance as a shipbuilding wood, is of small importance in the Philippines because of its very restricted occurrence. It is obtainable only in small quantities.

For keels and other parts of ships exposed to salt water: Aranga, banaba, bansalaguin, betis, duñgon, guijo, liusin, molave, narra, palo maria, and yacal are used.

For small boats, bancas, cascoes, etc., a large number of different woods are employed, among which are: Apitong, amuguis, bancal, banuyo, calantas, white lauan, lumbayao, [illegible]antol, malugay, mangachapuy, and ta[illegible]

2. *In places where the wood is in contact with the ground.*—For corner posts of houses (*harigues*): Molave, ipil, acle, agoho, alupag, anubing, aranga, banaba, bansalaguin, banuyo, batitinan; betis, calamansanay, duñgon, duñgon-late, liusin, macaasin, mancono, mangachapuy, narra, palo maria, sasalit, supa, tamayuan, tucan-calao, yacal.

For railroad ties: Molave, ipil, acle, betis, aranga, duñgon, yacal, tindalo, sasalit, supa, anubing, banaba, bolongeta, agoho. In addition to these, the following have been recommended by the Forestry Bureau as worth testing: Toog, dao (*Dracontomelum* sp.), apitong, amuguis, banuyo, malaruhat (*Eugenia* sp.), palo maria.

For paving blocks: Molave is the only native wood which is known to be satisfactory as a paving block. Several of the woods used for railroad ties should be tried for this purpose.

3. *For use as construction timbers.*—For heavy framing and general high-grade construction: Acle, agoho, alupag, aranga, banaba, bansalaguin, batitinan, betis, catmon, duñgon, duñgon-late, ipil, liusin, macaasin, mangachapuy, molave, narra, palo maria, sasalit supa, tamayuan, tucan-calao, yacal.

For medium-grade construction: Anubing, lumbayao, guijo, malasantol, malugay, lanotan, calamansanay, banuyo, batete, apitong, amuguis tanguile.

For light or temporary construction: Balacat balinhasay, bancal, batino, calantas, calumpit, cupang, duguan, dalinsi, dita, lanete, white lauan, red lauan, malapapaya, mayapis, nato, sacat, santol, talisay.

4. *For use in making furniture and ornaments.*—For the better grades of furniture there are used: Tindalo, acle, palo maria, catmon, teak, supa, ipil, narra, calamansanay, banuyo.

Cheap furniture is made of guijo, bancal, apitong, calumpit, dalinsi, sacat, talisay, dita, santol, baticulin, batete, malugay. Tanguile, red and white lauan, apitong and lumbayao make cheap furniture of excellent quality.

Besides the above-mentioned woods the following are used in cabinet making: Anubing, aranga, banaba, bansalaguin, camagon, bolongeta, ebony, lanete, lanotan, macaasin, tucan-calao, yacal, narra. Lanete, molave, and santol are among the woods used for wood carving.

In connection with this paper, Mr. Foxworthy has added a most comprehensive key to Philippine commercial woods which will prove of great value to the trade. To illustrate the key, 55 figures made with a uniform magnification of about five diameters are included. Space does not permit the publication of this excellent article entire which is available at the library of the Bureau of Science, Manila.

IRRIGATION IN FORMOSA

Consul J. H. Arnold, of Tamsui, states that the Formosan government has recently created an irrigation section under the bureau of public works, and an engineer for the section is at present in the United States studying irrigation problems there. Mr. Arnold continues:

According to preliminary reports, the irrigation works to be undertaken will involve an expenditure of $15,000,000 gold, to be divided into annual expenditures of $750,000 gold. It is the intention of the government to issue bonds for this amount. There are in Formosa about 750,000 acres of land planted in rice, one-half of which is irrigated by a system of reservoirs and canals constructed during the Chinese régime. The other half is obliged to depend upon the rainfall. It is the intention to improve the present system and to extend it to embrace those fields now dependent upon the rainfall, thus insuring the growers a constant supply of water and also protecting them from inundations. About 40 per cent of the land under cultivation in Formosa is planted in rice, the annual average crop of which nets 20,000,000 bushels. [illegible] other product which re[illegible] is furnished by the native ca[illegible] grown

canes, which are rapidly replacing the native cane, requires more water, thus necessitating some system of irrigation. At present there are about 90,000 acres planted in cane. The irrigation works will provide water for this area, as well as for an area to be reclaimed for planting in sugar cane.

It is estimated that the system, which will be one of reservoirs and canals, when completed, will provide irrigation for 1,000,000 acres of cultivated lands. There are no arid lands in Formosa and the irrigation problem is one having to do with the control and distribution of a bounteous supply of water. A central ridge of mountains traverses the entire length of the island. Without some system of storage distribution of waters, immense volumes incident to heavy rainfall are carried directly to the sea.

FLOUR IN SOUTH CHINA

Consul General Amos P. Wilder, under date of December 11, reports that the new flour mill just completed in Hongkong is the first one in South China. The effect of this new competition for American flour and the various factors entering into this trade are thus described by Mr. Wilder:

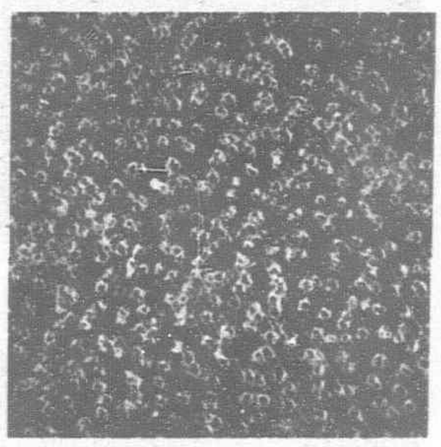
In Shanghai there are some five flour mills, with individual capacities running up to 600 barrels a day, in the main owned and operated by Chinese, although one is run by Germans. These use wheat from the Soochow Creek district and even as far as Hankow, some 600 miles. Recently, however, a cargo of 19,000 bags of Tacoma wheat was received by one of these mills. They have been very prosperous for three years past—some of them having been in operation for six years—but during the past year there has been a big shortage in native grown wheat, and the high rate of exchange at present seriously affects them.

The Hongkong mill is located on Junk Bay, some hours' ride by launch from the centre of the city of Victoria (popularly called Hongkong), on the Kowloon (mainland) side. The moving spirit in this project is a Canadian, who for a dozen years has done a very large business in this section for the Portland Milling Company. Some years he has sold nearly 2,000,000 sacks of flour, of 49 pounds each. He was one of the first to introduce the cheaper grades of American flour.

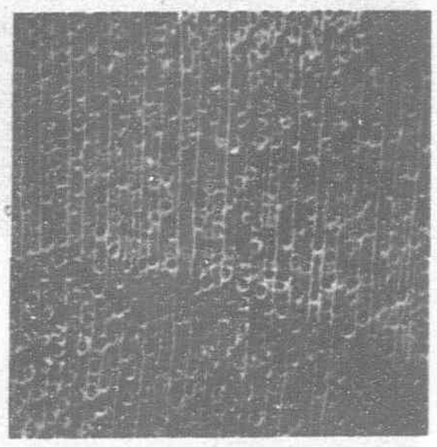
The new mill proposition has been brought to its present status in some eighteen months, and it is understood that by the end of December the product will be on the local market, though there may be delay of a month. A cargo of 5,850 tons of Walla Walla Club wheat secured in Portland, Ore, arrived December 10. The milling property, land, etc., represent an investment of some $500,000 gold. Apart from the Canadian's controlling interest, among other shareholders are several Hongkong capitalists. The new mills is in two sections, each side having a capacity of 800 barrels per twenty-four hours; it is thus an extensive equipment. A feature of the plant much in evidence from the harbor is an extensive piggery, houses, runs, etc., the idea being to feed pigs on the offal left in the proceess of flour making. The prospectus stated that fully 20,000 pigs could be thus cared for. It is understood, however, that experiments with this animal on the place have been dissappointing, owing to disease. Pork is a favorite flesh among the Chinese, and commands a better price in the markets of South China than does beef.

Flour, kerosene oil, and cotton piece goods are the three leading American exports to this important distributing point, and the millers of California, Washington and Oregon are looking with keen interest to this possible dislocation of their trade. A number of American companies have long had [illegible] who have done a very [illegible] this market

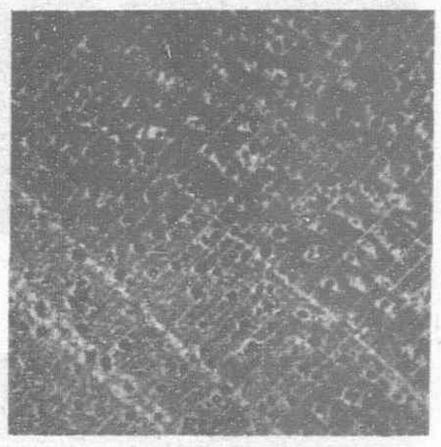
Within the past twelve months the imports of Australian flour into Hongkong have totaled 800,000 to 1,000,000 sacks, four sacks of 49 pounds to a barrel of 196 pounds. The freight rate from Australia to Hongkong is about $3 65 per ton of 2,000 pounds as against about $4.50 on the same weight from the Pacific Coast. Minneapolis flour enjoys a low freight rate—$8 gold per 2,000 pounds from that city to the Orient; but the strong demand for it in Europe, coupled with the inability of the Chinese to detect the excellence of this product, explains why Minnesota is not represented in the Far East. Nor is Dakota wheat, which is of high grade, imported to any extent.



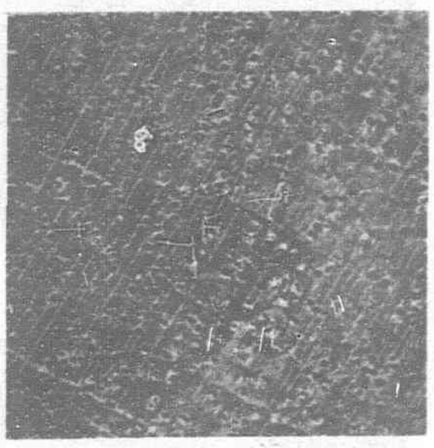
YACAL



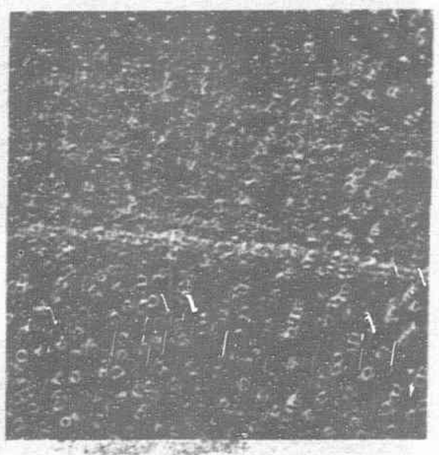
MAYAPIS



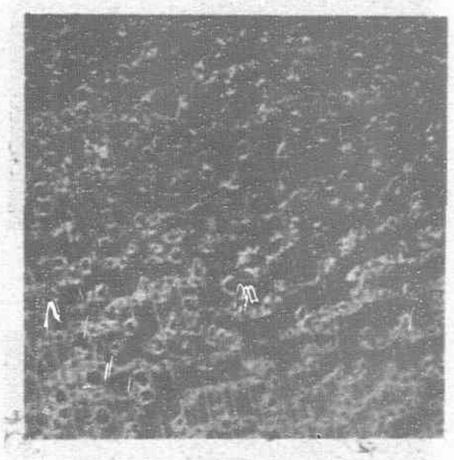
WHITE LAUAN



TANGUILE



GUIJO



APITONG

RED LAUAN

California flour ranks in quality above the flour of Oregon and Washington, and commands a higher price here. The Australian flour is ranked as more than equal with the California flour, stronger in gluten and about the same in color. Australian flour yields 28 to 30 per cent. gluten, as against 24 to 24 per cent. in California flour. Australian flour sells for about $39 per ton of 2.000 pounds, as againts $35 gold for Oregon and Washington—a considerable difference. Higher grade flour is used for bread and cakes, cheaper flour to an extent for vermicelli. Flours vary in price from $4 gold per barrel to $2 50 f. o. b. Pacific Coast, for the cheapest, all from the same wheat.

It is understood that the Canadian manager is seeking contracts for his new mill from six or eight large Chinese firms on the basis of $3.40 gold per barrel of four sacks. The method of disposing of the ouput in Hongkong is this: Each Hongkong agent has a comprador who is a clever man of business, and he sells the output to Chinese [illegible] in the nature of jobbers. [illegible] bond, and stands [illegible] to the firms taking the flour. A careful record of the import of American flour in bags of 49 pounds to Hongkong follows:

For twelve months to	California	Oregon and Washington
July, 1902	2,349,603	3,157,645
July, 1903	2,214,395	3,129,342
July, 1904	2,008,035	2,456,864
July, 1905	1,330,733	2,692,786
July, 1906	687,733	2,632,220

Hongkong is not so extensive a distribution point as formerly, once having included Korea, Newchwang, Vladivostok, Tientsin, Chefoo and its territory. These points, however, are now chiefly served direct. Canton and Southern China are reached by the network of rivers in its neighborhood, and Swatow, Amoy, Foochow, on the coast toward the north, are still markets for Hongkong received flour.

The freight rate from American ports to Hongkong has been $4 50 per ton on flour. It is understood that the recent shipment of wheat for the new mill enjoyed a rate of $3.50 per ton, and the American millers are actively seeking to correct what seems to them an inequality between the finished flour and the raw material—wheat.

Consul Alexander Heingartner, of Riga, advises that the Siberian papers report that the export of Russian flour to China and Japan, which for the last three months was practically nil, has again commenced.

At present 400,000 poods (14,444,000 pounds) are awaiting transportation. The officials of the Eastern China Railway are giving every assistance in forwarding the flour. The Siberian papers add: "This large export is proof that the Siberian flour can compete in the Eastern markets with the American product."

AMERICAN-PHILIPPINE RECIPROCAL TRADE

The Publicity Committee of the Manila Merchants' Association has issued a pamphlet containing an interesting article from the pen of Mr. Harold M. Pitt of Manila on Reciprocal Trade between the United States and the Philippine Islands, in which he makes it his purpose to demonstrate the great possibilities of its development by comparing the rapid increase of American trade with Porto Rico under the reciprocal arrangements with that insular possession since 1901 and the trade with the Philippines during the same period with the impossible tariff wall against the importations from the Philippines and the high tariff wall of the Philippines excluding American manufactures. It is a statement of facts and figures that the manufacturers of the United States cannot afford to ignore if they desire to expand their trade outside the limits of the United States..

Cotton, iron and steel manufactures and breadstuffs are three of the most important imports into the Philippines that would gain the greater impetus under reciprocal trade relations, and Mr. Pitt has included in a long list of comparative tables, reference to these articles in which the figures involved give startling evidence of the advantages that would accrue to the American manufacturer should the same relations that Porto Rico enjoys be extended to the Philippine Islands and meet with the same results.

These figures disclose that the Philippines with its population of 8,000,000 imported from the United States a bare $600,889 worth of cotton manufactures out of a total importation of this product of $7,075,490. During the same period Porto Rico with a population of 1,000,000 imported from the United States cotton worth $3,678,247. The estimate of what might have been imported had the Philippines enjoyed the same reciprocal trade relations as Porto Rico, according to population, as submitted by Mr. Pitt reaches $29,425,976.

The imports of iron and steel into the Philippines for the year 1906 amounted to $2,039,662 and of this $707,131 worth was imported from the United States. During the same period Porto Rico imported from the United States $3,628,200 worth of this product. The estimated value of what might have been received in the Philippines during this term based on the population had the Philippines the same trade privileges as Porto Rico is placed at $29,025,600.

These are examples of two of the leading manufactures of the United States for which there is a special demand in the tropics and there is no reason to believe that the purchasing power of a Porto Rican is any greater than that of the average Filipino under similar conditions as the inhabitants of Porto Rico enjoy.

Following is the introduction of Mr. Pitt's contribution under the caption "Open Letter to the Merchants and Manufacturers of the United States" which precedes the tables included in the pamphlet:

GENTLEMEN:

When the American people understand conditions in the Philippines as they actually exist, and learn the possibilities that are offered here for the investment of capital and as a field for the exercise of individual talents and ability in building up and developing, in conjunction with capital, the industries of the islands; and when the American public realizes what a wonderful increase in the commerce of the islands will come with their development, all operating to advance the political prestige as well as the commercial preponderance of the United States among the great nations of the earth, the small talk and trifling agitation that has lately been the fashion regarding the cost of the islands and the cumbersome weight on our government will dissipate in thin air.

Conditions in the United States during the past decade have been so favorable for all commercial and manufacturing enterprises that the home field has afforded the energy of her people ample opportunity and satisfactory returns. But this same healthy condition has so stimulated the industries of the country that production has been brought to a point where the necessity of cultivating foreign markets is apparent if the equilibrium of consumption is to be maintained in its relation to production.

MR. HAROLD M. PITT

The time is rapidly passing when the home market may be considered sufficient, and this fact is being impressed upon the minds of thoughtful manufacturers throughout the United States.

It is now possible to consider in reason the advantages which control of the markets of the Philippines would give, and also the relation that a greatly increased commerce in these islands will bear to our ultimate control of a dominating share in the commerce of China. But, before we can hope to secure the trade of the Philippine Islands it will be necessary for Congress to pass reciprocal tariff laws which will establish free trade between the United States and this, her territory. Such legislation will be of wonderful assistance to the agricultural interests of the islands and naturally result in vast improvements in economic conditions among the people. Production in all articles for export would be stimulated and the consuming power of the people correspondingly increased. This change in conditions would operate to the direct advantage of manufacturers of the United States, as, with free access to Philippine markets for their products, they would eventually control the import business of the islands. In support of this prediction we quote the following from a report on conditions in Porto Rico by the Bureau of Statistics, Department of Commerce and Labor, Washington, April, 1907:

"Commerce and commercial opportunities and prospects in Porto Rico have rapidly developed during recent years, and the commercial relations between the island and the mainland of the United States have been greatly stimulated through the natural interchanges growing out of a close relationship between tropical and temperate zone sections and peoples. No class of products has enjoyed a greater popularity among or realized a greater growth in demand by the people of the United States than those produced in the tropical sections of the world. The value of tropical and subtropical products entering the ports of the United States has quadrupled since 1870 and doubled in the last twenty years, while the quantity of many important tropical products imported has grown in even greater proportion.

"The demand for such standard articles of tropical production as sugar, coffee, cacao, fibers, tobacco, fruits and nuts, gums, cabinet woods, dyewoods, and other articles of this character increases steadily and rapidly in the United States. So, when Porto Rico, a producer or possible producer of these articles, found a ready market in a country of 80,000,000 consumers, her production of the more important of them was immediately stimulated, and soon there followed similar increases of production in the less important industries of this character. In turn followed the improvement of roads and facilities of transporting these natural products to the seaboard and thence to the markets of the United States. On the other hand, the people of Porto Rico, requiring breadstuffs and manufactures, the products of the temperate zone have applied their increased earnings and the results of their increased sales in the United States to increased purchases of the products of our farms and our factories.

"The result of this natural interchange and the stimulus in Porto Rico is seen in the fact that * * * * * value of merchandise passing between the island and the United States is ten times as great as a decade ago, both in products sent to this country and merchandise purchased therefrom.

"These conditions of increased markets in the United States for Porto Rican products and increased interchange of products between the people of the island and the people of the mainland have greatly stimulated the interest of American capitalists, investors, and producers, and many millions of capital have been invested in the various lines of industries in Porto Rico—the production of sugar, tobacco, citrus fruits, pine-apples, cocoanuts, coffee and fibers, and experimentally in many other lines. These investments have in turn stimulated the development of roads, railways and other facilities of transportation and have at the same time stimulated the interest of American citizens in conditions in the island and its possibilities as a field for future investment of American capital and American energy."

This record of splendid achievement in Porto Rico will be rivalled in these islands if they are given the same advantages that Porto Rico enjoys.

We quote here from a report on conditions in the Philippines by the Bureau of Statistics, Department of Commerce and Labor, Washington, January, 1907:

"The United States is a great consumer of tropical products, its imports of articles produced in tropical and sub-tropical climates aggregating over 500 million dollars per annum. The articles forming this commerce include sugar, coffee, tea, cocoa, india rubber, hemp, jute, tobacco, fruits, nuts, spices, gums, silk, cabinet woods, dyewoods, wool, and hides, and many other articles of less importance.

"The Philippines, located in the tropics, are capable of producing large quantities of all, or practically all, of these various articles. At present their productions for export consist chiefly of hemp, sugar, and tobacco, and the aggregate value of their exportations has never, because of crude methods, absence of transportation facilities, and lack of capital, exceeded 34 million dollars in any year; yet their possibilities are many times that amount.

"The area of the Philippines is 115,026 square miles, their population 8 millions and their exports 34 millions in value. Porto Rico with an area of 3,435 square miles and a population of one million exports about 24 million dollars' worth of merchandise per annum, or two-thirds as much as the Philippines, although its area is less than one-thirtieth and its population about one-eighth that of the Philippines. In Porto Rico, production and exportation have doubled in eight years under the application of American methods of production and transportation.

"The area of the Philippine Islands is little less than that of Japan (147,435 square miles) whose exports, after supporting a population of 46 millions, amounted in 1905 to 158 millions

of dollars, and is practically five times as great as Ceylon, which, with a population half that of the Philippines, exported, in 1904, about 40 million dollars' worth of merchandise.

"The United States brings into its ports from foreign countries 75 to 100 million dollars' worth of coffee annually, and the Philippines have produced, under favorable circumstances, large quantities of coffee of a high grade; from 40 to 50 million dollars' worth of India rubber annually, and rubber production is not only possible but entirely practicable in the Philippine Islands. Fiber importations into the United States, including chiefly hemp, sisal, and jute, amount to about 40 million dollars annually and these the Philippines are able to produce in unlimited quantities, with the possible exception of jute, which is still in the experimental stage. It also imports about 35 million dollars' worth of fruits, nuts and spices, almost exclusively of tropical production, and practically all of which might readily be produced in the Philippine Islands; about 22 million dollars' worth of tobacco annually, chiefly from tropical countries; from 15 to 18 million dollars' worth of tea per annum, and the opinion of tea experts in the Orient is that the Philippines are about the only remaining undeveloped tea-producing area in the world; over 30 million dollars' worth of goat skins annually; practically all of which comes from tropical countries. Its annual importation of 30 million dollars' worth of pig tin, produced almost exclusively in that part of the world in which the Philippines are located, and of 60 million dollars' worth of raw silk, produced almost exclusively in countries immediately adjacent to the Philippines, suggests further possibilities of development of entirely new industries in those islands; for while tin has been found in certain parts of the islands, and conditions in certain parts of the islands seem favorable to the silk industry, little has been done in either of these lines to develop industries which are now so important and profitable in comparatively near-by sections of the world.

"The experience of the United States thus far in its trade with its noncontiguous territories, especially those located in the tropics, has been that the growth in sales of merchandise to those islands has been coincident with the growth of their producing and consuming power. The value of the merchandise brought from Porto Rico to the United States is now about ten times as great as in the years immediately preceding annexation, less than a decade ago. Where the United States has become a large purchaser of the products of these tropical islands, their production has been stimulated, and they have in like degree increased their purchases of manufactures and breadstuffs from the United States."

It is admitted that Porto Rico has only fairly entered upon her industrial development. The external commerce of Porto Rico for the fiscal year ended June 30, 1901, amounted to $17,950,197. For the calendar year 1906, it amounted to $50,166,676. The bill providing for free trade between the United States and Porto Rico went into effect July 25th, 1901. The Philippine Islands, having a population of nearly 8 millions and an area thirty-two times that of Porto Rico, showed a foreign commerce in 1901 of $54,665,824, and in 1906 of $59,046,660. In 1906, 88% of the imports into Porto Rico came from the United States; in the same year, 17% of the imports into the Philippine Islands came from the United States. If the Philippine Islands had purchased in 1906 as much goods per capita from the United States as did Porto Rico, instead of $4,477,886, which was the actual amount, the figures would have been $175,989,168; and that this business is available to the United States, in the Philippines, with free trade established is as certain as has been the growth of the commerce of Porto Rico. These figures while suggestive, by no means indicate the limit of possibilities of commerce in these islands. Between 40 and 50% of their total area is practically virgin forests, in which are found some of the most valuable woods known. It is estimated that these forests will yield upwards of 20 million dollars' worth of timber every year without impairment. The mountainous sections are well adapted to the raising of hemp and coffee. The valleys and plains are favorable in soil and climate for the cultivation of other tropical products.

There is nothing produced for export in the Philippine Islands, and nothing that the country is adapted to produce that is not at the present required in the United States and imported from foreign tropical countries in quantities that would tax the capacity of the islands to yield. The foreign goods consumed in the Philippine Islands consist principally of cotton manufactures, food stuffs, and iron and steel with their manufactures. There are no articles on the entire list that are not produced and exported by the United States.

The interests of the United States and the insular possessions would without question be best served by reciprocal trade arrangements and business expediency demands that trade barriers between their ports be abolished.

If free trade were established between the United States and the Philippines, these islands would, within a few years' time, reach the same measure in production in proportion to population as has Porto Rico. The external commerce would be with the United States in the same proportion as that of Porto Rico, and the vessels that would be required to handle a commerce of $400,000,000 annually would rapidly increase the merchant. marine of the United States. The commerce between the United States and the Orient, including the Philippine Islands, would prove a most potent factor in rehabilitating the ocean carrying trade of the United States and recover for our government her old time prestige on the high seas.

The geographical position of the Philippine Islands makes them a natural gateway to the markets of the Orient. The United States with a great commerce established in these islands would occupy an impregnable position in competition for the markets of the Far East. The Philippine market, which the United States should control would prove a nucleus for this trade. From stocks carried in Manila, the China coast trade could be supplied within from two to four days. It now takes from five to six months from the time orders are mailed from any point in the Orient to New York, London or Hamburg, before the goods are received. It is obvious that with stocks in Manila from which orders could be immediately filled United States goods would gain a strong foothold in this section of the world.

China is developing rapidly; the building of railroads is giving great impetus to the commerce of the Empire, and a spirit of progress prevails there that is certain to bring her into more intimate relations with the outside world. The United States should be the first nation to profit by these changes, and the Philippines offer a solution to the question of how we may best take advantage of the opportunity.

In 1905 the imports into China amounted to approximately 250 million dollars. This is only a fraction of what it will amount to in future years To this trade the United States contributed about 20 millions, while Great Britain and the British possessions controlled more than one-half Of these 250 millions of imports, nearly 90 millions were represented by cotton goods alone, while iron and steel and their manufactures follow closely in importance. No nation should be able to compete for this trade on an equal footing with the United States.

Other sections of the Orient can be reached with American goods from Manila. Tonquin, Siam, Straits Settlements, Borneo, Java, Sumatra, etc., are all within a few days travel of Manila, but China furnishes the largest market and because of its capacity for development and of the fact that it is developing rapidly, it offers the best example of increased possibilities for American commerce in the Orient with Manila as a supply station. England has Hongkong as a distributing point, but Hongkong has no field of its own to furnish a permanent market and, therefore, would find it difficult to carry stocks of goods from which to draw for the uncontrolled trade of contiguous territory. With a large market already secured in the Philippine Islands, the United States would possess a distinct advantage and American manufacturers would find it greatly to their interest to carry permanent stocks in Manila. From these the filling-in-trade in China could be supplied and thus American goods would become better established and gradually dominate the market.

Since 1898 individual American interests have steadily increased in importance in the Philippine Islands and evidence of the enterprise and business acumen of Americans is now being met with on every side. We find them in the provinces applying their energy to agricultural pursuits. In the larger cities they are introducing electric lighting and ice plants. American capital has begun to develop the lumbering business along modern lines and is building railroads in the principal islands. A modern electric light and power and street railway system has been inaugurated by Americans in the city of Manila, and a factory, the second largest in the world for the manufacture of cocoanut oil and by-products, stands on the banks of the Pasig a monument to the enterprise and faith of our countrymen.

To the initiative, energy and example of Americans in the islands is due in a large measure the progress that has marked the period since 1898.

The great essentials in the Philippines to-day are capital and free trade with the home country; with the latter would come a mighty development of the vast resources of the islands. This, American capital under intelligent direction would make certain. These elements secured, the great forces with which the economic structure of a nation is created would quickly be brought into operation.

We want you to become interested in the Philippines and to demonstrate your interest by giving us your active assistance. This you can do by taking up the question with your senators and representatives in Congress urging upon them the great importance of early enactment of legislation that would give to Philippine products free access to the United States markets and United States products free access to the markets of the Philippines.

We are dependent economically, as well as politically, upon the government of the United States, and to our representations made from the standpoint of mutual interest we add an earnest appeal for justice.

A reply to this communication is desired and we will be glad to answer inquiries upon this or any subject relating to the Philippine Islands

Respectfully,

HAROLD M. PITT,
Committee on Reciprocal Trade.

THE JAPANESE CEMENT TRADE

In reference to the prospects of the cement trade, a vernacular contemporary remarks that during last spring, when the business boom was still active, large orders were issued for foreign cement on speculation, and about 80,000 casks arrived at Yokohama and about 12,000 at Kobe in June last. By that time, however, a great change had taken place in the economic situation, many new companies had collapsed, and the demand for cement had practically ceased. The American cement was found to be inferior in quality, and importers made great efforts, but without result to dispose of their stocks. The large arrival of foreign cement and the projected cement companies, and also the extension of the old cement works, adversely affected the market, and buyers consequently hesitated. Their fears have, however, been contradicted by the facts. The Toa and Sakura Cement Companies require much time yet before starting business, and if the old companies have increased their output, the stock has not glutted the market to such an extent as to force down the price By the recent inundations heavy damages were caused in various parts, and the necessary repairs will soon call for a large demand for cement, and the market has therefore a good prospect. The Kwansai Railway Company ordered over 7,000 casks, before the line had been taken over by the Government, from the Osaka Cement Company.—*Japan Chronicle.*

CHINA AND THE CONQUEST OF THE AIR

The steerable air-ship invented by Tse Tsan Tai of Hongkong in 1894 was published to the world in 1899. Particulars of this air ship appeared in the Hongkong newspapers and the *Scientific American* at the time.

MR. TSE TSAN TAI, INVENTOR OF THE AIR SHIP "CHINA"

Tse Tsan Tai's air-ship is built of aluminum and in time of war, he claims, the cigar-shaped balloon can be enclosed in an aluminum shell to protect it from the missiles of the enemy. The inventor contends that the solution of aerial navigation can only be accomplished by the combined use of the balloon and fan propellers and that in a perfect air-ship the cigar-shaped balloon is indispensable. It is, he claims, as necessary to and as important in the construction of an air-ship as the iron hull is to the fast liners which plow the Atlantic. He does not believe in the conquest of the air by aeroplanes and flying machines, and says that they bear the same relation to the real air-ship as that of a raft to an ocean greyhound. He has also expressed the belief that the navigation of the air successfully will not be satisfactorily accomplished until electric storage and fan propulsion are perfected.

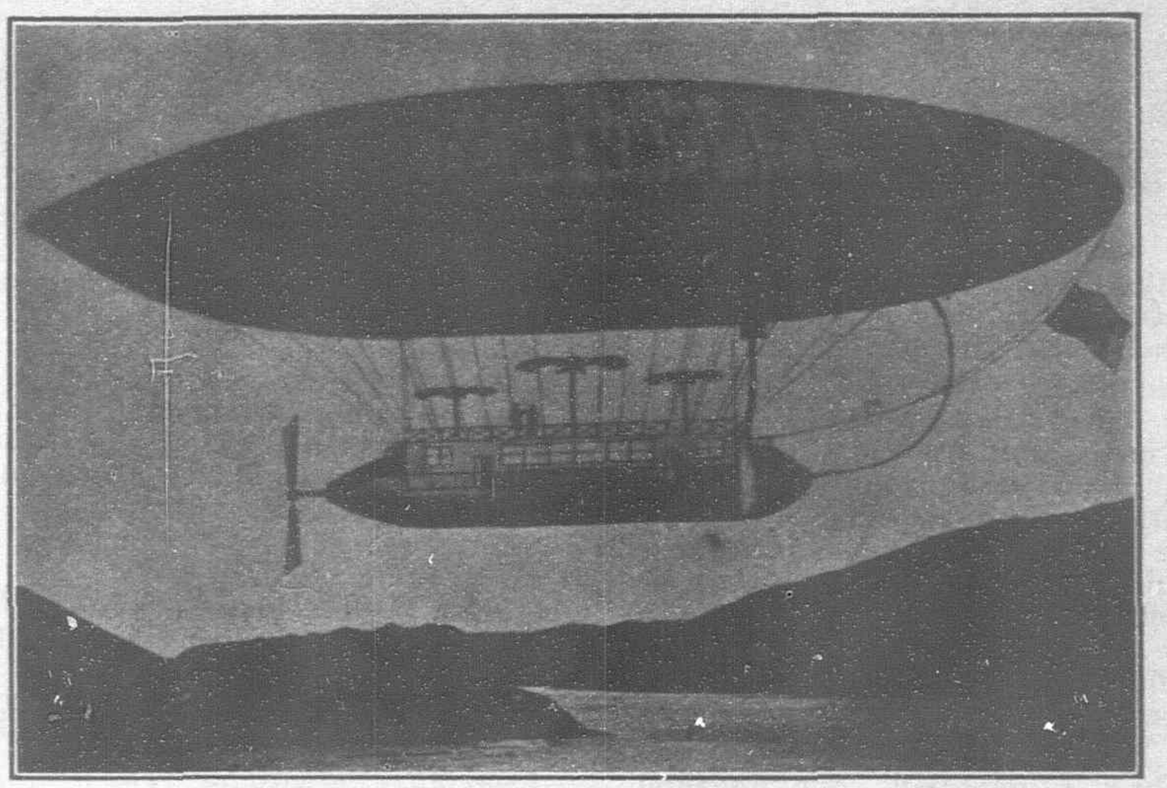
The inventor's theory is that air-ships should depend upon their fan-propellers when advancing, receding, ascending and descending while in mid-air and that the cigar-shaped balloon should only be used as a sort of safety buoy. Consequently, besides bow and stern propellers, his air-ship "China" is provided with three powerful deck propellers which are regulated by clockwork. Instead of being steered by exposed planes and rudders it is controlled by concealed steel wings which can be ejected from either side of the ship's stern by the pressure of an electric button. The object of this method of arranging the steering gear is to make for speed by reducing obstruction to the minimum. The following is an excerpt from the *China Mail* of August 14, 1900:

"Aerial navigation having been practically solved in a way by Count Zeppelin's invention of an aerial ship, which report says was made to travel at the rate of twenty-five miles an hour, it will be interesting to our readers to know that there is in our midst a young Chinaman, Mr. Tse Tsan Tai of the Public Works Department, who has been interested in the problem of aerial navigation since the year 1894 and that he sent his solution to Hiram S. Maxim on August 18th, 1899.

"Mr. Tse Tsan Tai furnished Maxim with drawings and full particulars of his air-ship, with a request that the noted inventor should make the necessary test experiments as he could not afford to go to such a great expense. Maxim replied in a letter dated October 5, 1899, that he was already in possession of the secret. With regard to this, Mr. Tse Tsan Tai has some doubts, because up to 1899, he had never read or heard of a flying machine being propelled by bow, stern and deck fan-propellers or steered by concealed wings or rudders. The flying machines and aeroplanes already in existence are steered by means of detached balloons, kites and guide ropes. They cannot go against the wind, and are unmanageable in rough and windy weather. Even Maxim's latest is hoisted into the air by being made to slide down an inclined plane.

"Mr. Tse Tsan Tai's solution does away with detached balloons, kites and guide ropes and inclined planes. The inventor is confident that his steerable airship will go along in the roughest weather and can be propelled along at from sixty to one hundred miles an hour."

The widely-read Chinese newspaper *Sheung Po* recently published an illustration of this air-ship and it is believed that the Chinese government will not be last in the race to build a fleet of steerable air cruisers and air battleships.



THE AIR-SHIP "CHINA"

The inventor of the first Chinese dirigible air-ship is 36 years of age. Besides being of a scientific and inventive disposition, Mr. Tse Tsan Tai is a writer and author of repute, his latest work, "A Diary of the Russo-Japanese War," having received praiseworthy appreciations from the Japanese minister of Marine, the Minister of State for Education and other prominent Japanese and Chinese officials.

It may be interesting to note that Tse Tsan Tai is also the inventor of the "Wolseley" sun-helmet which he presented to the British government through General Wolseley in July, 1896.

PROPOSED MINING EXHIBITION

It is probable that the vast mining interests of the East will indulge in an exhibition this year that will open the eyes of the world to the marked development of the mineral resources in this part of the globe. According to *The Mining Journal* a movement is on foot to interest mining men in the holding of an exhibition some time this year at Ipoh, Perak. As a splendid advertising feature for the Far East it could not be surpassed, and manufacturers and merchants, interested in the introduction of improved mining machinery and supplies, should find in such an institution a splendid opportunity to meet those interested in the purchase of such equipment. Altogether, this movement should meet with general support and we do not believe a better selection than the Federated Malay States as a center for such an exposition could be made. The *Journal* says:

"At first sight the proposal may not appeal particularly to manufacturers and merchants in this country, but we venture to think that the realization of this project should offer greater opportunities of doing business than is the case with such shows generally. In the first place, it is being organized by the officials, even if the idea itself did not originate with the Senior Warden of Mines. More important still—for reasons for the adequacy of which local opinion must for the moment suffice—there is a general movement in the tin mining circles of the East to adopt machinery wherever it seems to promise to compete successfully with hand labour. When it is remembered that the Federated Malay States and the Dutch Indies produced some 65,000 tons of tin last year valued at about eleven and a half million sterling, and that 90 per cent is probably a conservative estimate of the amount won under primitive Chinese methods it will be realised that for the successful application of mechanical methods of excavating and handling ore there is an immense field open. Conditions vary greatly; dredges, monitors, steam shovels, and cableways, all are indicated as the most satisfactory means of moving ore in different instances, while the heavy rainfall and high cost of fuel both point to a much wider use of electrically generated power than obtains as yet. It is a circumstance at once curious and at the same time of considerable industrial importance, that an industry of the size of tin mining in the East should have grown to maturity on primitive Asiatic lines; and it will certainly be no less surprising if the study of the conditions by experienced alluvial miners fails to reveal the possibility of more rapid and economic work, at any rate in many of the poorer deposits, which can only be handled by existing methods when tin is at record figures. In any case, whether our manufacturers think it worth while to take a part as exhibitors in the projected exhibition or not, there can be no doubt that they would do well to avail themselves of the opportunity which such an exhibition offers to send a representative to see what is being done, and to study the possibilities and needs of the country."

BATAN ISLAND COAL TEST

The report on the adaptability of Batan coal for steaming purposes and the comparative cost made by the Bureau of Navigation of the Philippine Islands has been submitted to the Secretary of Commerce and Police. The tests covered a period of five months during which period nothing but Batan coal was used on one vessel of the bureau's fleet. Lieutenant H. G. Sparrow, U. S. N., Marine Superintendent of the Bureau, made the report. The vessel steamed 13,319 miles and used 864 tons of Batan coal costing ₱6 a ton or in all ₱5,184. The estimated amount of Australian coal for steaming the same distance is 545 tons and, at the market price of ₱14 a ton, the cost would have been ₱7,630. The saving by using Batan coal was ₱2,446

TORANOSUKE FURUKAWA OF JAPAN

Perhaps no student from Japan who has sought his education in Europe or America represents so much wealth as Toranosuke Furukawa of Tokio and of a dozen other sections in Japan where the Furukawa family has large interests. This progressive young man has been finishing a course in mining and metallurgy at the Columbia University and preparing himself for the duties of owner and manager of the largest mining interests in Japan. Ichibei Furukawa, the founder of the now famous family, was a bank clerk who was attracted to the rich mineral deposits near Nikko. He resigned his position and took up mining following the crude methods of the time. This was 38 years ago. He organized the Furukawa Mining Co. and slowly introduced modern methods with the result that today the company produces one-third of the copper mined in Japan and a large proportion of the silver, coal and coke.

The founder of the house of Furukawa died in 1903 and two years later Toranosuke succeeded to the presidency of the company which has since been under his direction.

The big copper mine near Nikko, called the Ashio, is the bonanza of the Furukawa family. Its annual yield is 12,000 tons of copper in the form of Bessemer copper ingots, tiles and electrolitic copper in the form of both cathode and wire bars.

Among the other properties owned and operated by the Furukawa people are the Innai silver mine and the Ani copper mine, both in the province of Ugo; Furokura copper mine and Midzusawa copper mine, both in the province of Rikuchi; Nagamatsu copper in the province of Uzen; Kusakura copper mine in the province of Yechigo; Kuno copper mine in the province of Totomi; Western colliery in the province of Chikuzen; the Honjyo copper works and the Fukagawa Coke works in Tokio.

Mr. Furukawa's guardian, and financial and technical adviser, is M. Otagawa, who is a graduate of the University of Japan and a member of the American Institute of Mining Engineers and of the American Society of Civil Engineers.

This family gives employment in its many mines to over 40,000 and over 100,000 population depend entirely for support upon the wages paid from these institutions.

Mr. Furukawa intends taking a course in economics in Oxford and will travel extensively in Europe before settling down in Japan permanently.

RECORD RESULTS SMITH'S TRAMWAY CABLES

The two cables used on the Glasgow District Subway are each 36,300 feet long, 4⅝" circ., and weigh 56 tons each, and are the largest wire ropes used anywhere in the world in a single length. Up to December 15th, 1906, when the cable was removed from service, 24 cables had completed their lives since the opening of the line; of these, exactly 12 were supplied by Thos. & Wm. Smith, Ltd., the wire rope manufacturers of Newcastle on Tyne, the remaining 12 having been supplied by various other makers. The following particulars show the total results in miles run by 12 Smith cables, as compared with the 12 cables supplied by other makers, and constitute a world's record in tramway cables:—

12 of Smith's Cables have given a total mileage of	992,630.
12 Cables supplied by various other makers have given a total mileage of	586,802.
Shewing an excess in favor of Smith's Cables of	69.1%.

In the neighboring City of Edinburgh, the Edinburgh and District Tramways Co. Ld. has the largest system of cable traction in Great Britain, and Smith's cables have been able to give equally satisfactory results in that City. At the present date, viz : April 30th, 1907, this company has 10 cables running, representing a length of 220,900 feet, as against two cables supplied by other makers, representing a length of 36,500 feet. The contract for 300

TORANOSUKE FURUKAWA OF JAPAN

tons of cables is the third contract for a similar quantity which we have secured from this company within the space of two years.

As the Glasgow and Edinburgh tramway cables are the most important wire ropes used, these records speak for themselves. Messrs. Jardine Matheson & Co., Ltd., Shanghai are the agents in the Far East.

RUSSIAN MINING NOTES

[*Specially Compiled for "The Mining Journal."*]

The Amur Gold Producing Company, with four mines on the Selendzhi system, head offices in St. Petersburg, has made a net profit of 250,442 roubles in its sixth (1905—6) working year, and will give 203,400 roubles, or 6.78 per cent. in dividends. The profit in 1904-5 was 206,731 roubles, and the dividend 5.6 per cent.

GOLD NEAR LAKE BAIKAL

According to the "Sibirskaya Sarya," a new deposit of sand with rich gold content has been discovered at the gold mines of the Nakvasina company, in the Vercholensk district, near the village of Nijniangorsk. The content, say those who know, reaches as much as 50 to 60 solotniks of gold per 100 poods. The new find is very favourably situated—about six versts only from the River Togo, which falls into Lake Baikal.

THE KISCHTIM WORKS DEAL

The English deal over the Kischtim Works would appear to be in some doubt, according to the latest news in the "Perm Viedomosti," which says that a committee is investigating the economic value of the works, not so much with a view to buy up the shares of the company as to give it a loan. The English were chiefly interested in the Karabasch gold lodes, which had in the past yielded large quantities of gold; but closer investigation shows that (so says the report) the richest part of the lodes have already been worked out.

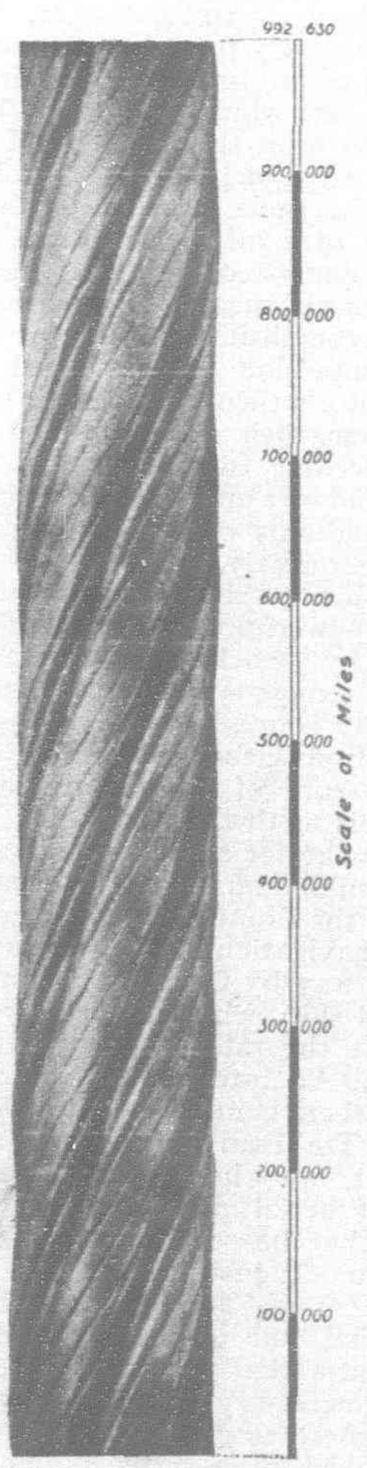
NEW MINING COMPANIES

The authorities have authorised the constitution of the Alapieffsk Mining Company (S. S. Yakobleff), with factories in Perm and offices in St. Petersburg to exploit mining, metallurgical, mechanical, and chemical concerns, and for the production of gold and platinum, copper, asbestos, etc. The statutes of the Tuminsk Gold Company have also been approved. This company will exploit gold mines, etc., in the Priorsk district (capital £100,000).

ENGLISH MINING ENTERPRISE

The Elborus Joint Stock Company, says the "Torg. Prom Gazeta," which owned, as is known, the unique lead and zinc deposits of the world, both as to rich content and situation, has during the past few years been managed by a committee, which owed rent for the last five years to the Karatchevsk Mining Company, on whose land the company's mine is situated, at the rate of 50,000 roubles; in consequence of which, in the autumn of last year, the Karatchevsk company sought to have the contract rendered invalid, But now the administration has succeeded in finding a group of Englishmen, capitalists, who have paid in the arrears and are forming a new company to exploit the deposits belonging to the Elborus company. This, of course, will involve the liquidation of the original company.

Under the title of "English Companies in our Mining Industries," the "Uralsky Krai" says: "Of those English companies whose object is to exploit our mining wealth in the Urals Caucasus, and Siberia, particularly as to copper, gold, and platinum deposits, the Company of Central Siberia, Limited, seeks to obtain mining properties in European, but especially in Asiatic Russia. At the present moment it has in view some gold properties in Siberia and a copper business in the Caucasus. The capital of this capital is £100,000. Then there is the Domains Company of Siberia Limited, with Prince Turn and Taxis, etc., at its head, disposing of a capital of £1,250,000, which proposes to prospect for and produce gold and other minerals, excepting naphtha, in the Nertchinsk and Altaisk districts." And lastly, the journal names the Anglo-Russian Platinum Mining Company, which has bought gold and platinum mines from Brothers Schaiduroff in the Verchotursk and Tcherdinsk districts, in the Perm Government.



SMITH'S TRAMWAY CABLE RECORD

PHILIPPINE RAILWAY CONSTRUCTION

The construction of the Luzon system of railways by the Manila Railway Co. during the last month has been in keeping with the splendid record since this work was initiated, and it is expected that the lines proposed will be completed long before the expiration of the terms of the contract.

The line between Dagupan and San Fernando de Union has been graded, the steel laid and ballasted to San Fabian, the junction of the Camp One extension with the main line, and a distance of about 12 kilometers. On this section, three long bridges, averaging 300 feet each of temporary construction have been completed and will be replaced later by permanent steel construction with concrete foundations.

On the Camp One extension, 16 kilometers have been graded and track laid 10 kilometers.

Of the 48.7 kilometers of the Paniqui-Tayug line, 5 kilometers were graded but no steel was laid up to the middle of last month.

The Dau-San Pedro-Magalang Line, which is 9 kilometers in length, has been in successful operation since December 15. A side track for handling the crop will probably be put in as the demand for transportation warrants the outlay.

The San Fernando de Pampanga-Florida Blanca line has been graded, rails laid and ballasted for 16 kilometers and the line for 10.5 kilometers in operation since November 12. The Bacolod depot has been completed and two other stations are under way.

The Manila Batangas line has been graded for 54 kilometers and the ballasting completed and rails laid for 11 kilometers of that distance.

The Manila Belt line has been graded for 9.6 kilometers and the track laid for two kilometers.

The Cavite line has been graded for 24 kilometers and the rails laid and ballasted for 12 kilometers.

The grading on the Lucena line has been completed for 5 kilometers from Tanauan.

The Antipolo line is nearing completion, the grading having reached a point 5 kilometers from Taytay and the rails laid for 3 kilometers of the distance.

Equal success in railway construction is reported on the lines of the Philippine Railway in Cebu and Panay. On Cebu the grading is completed from Danao on the North of Cebu to Carcar on the south, a distance of 20 miles. Of this distance, 20 miles north and 14 miles south have been laid with steel, partly ballasted and under operation. Permanent bridge construction is progressing and all the depots on the 20 miles section north of Cebu have been completed. The construction of the shops and depot at Cebu is progressing satisfactorily.

In Panay, the line is graded for 24 miles and the track laid and ballasting completed for 14 miles. The work on the terminal at Lapuz-Lapuz is well under way as well as the construction of the shops and storehouses at Iloilo.

The preliminary survey of the proposed route of the railway in Negros Occidental has been completed between Saravia to Cabancalan for a distance of 15 miles.

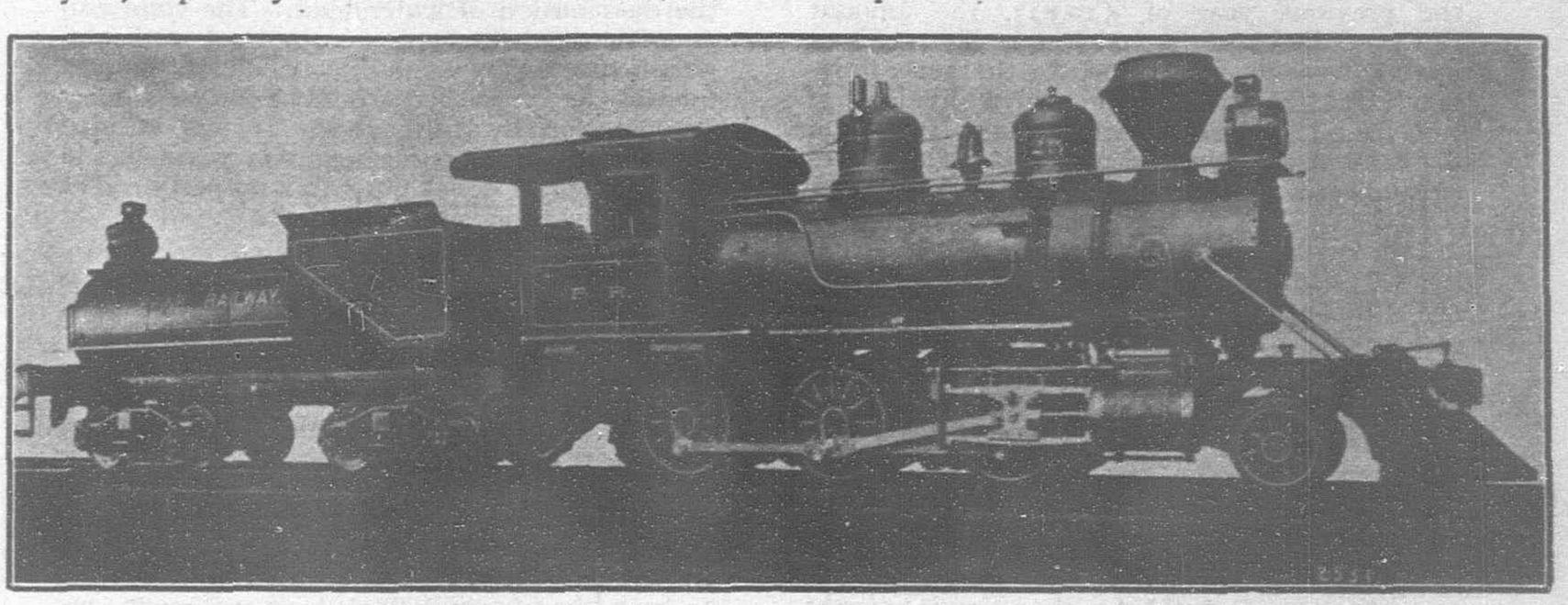
The new Baldwin locomotives recently ordered from the shops by the Philippine Railway Co. and now on the way are described as follows:

Weight, 40 tons; gauge, 3′ 6″, Cylinders, dia. 15″, stroke, 18″; drivers, dia. 44″, working pressure, 180 lbs.; fire box 70″ long, 29″ wide; boiler, dia. 50″, type, straigth top; tubes, 128, dia. 2″, length, 9′ 11″. Heating surface, 79 sq. ft. and tubes 656 sq. ft., a total of 735 sq. ft.

Grate area, 13.8 sq. ft.; ratio to heating surface, 1 to 53. Wheel base driving, 10 ft., 9 in.; wheel base total engine, 18 ft., weight on drivers, 59,000 lbs.; total, engine, 68,000 lbs.; tender, 50,000 lbs.; traction power, 14,080 lbs; ratio adhesion, 4.19; tank capacity, 2,500 gals.; limits, height, 13 feet, 6 inches, width, 9 feet. The engines are equipped with 16 inch Dressel oil case burner headlights and Westinghouse automatic air brakes, on drivers and tender wheels. An automatic brake is also attached front and back with 34 inch center above rail.

RUBBER CULTURE IN PHILIPPINES

Incomplete reports received by the Bureau of Forestry, Manila, P. I., from planters in Mindanao show that interest in rubber culture is steadily increasing in that part of the archipelago. Large numbers of seeds and seedlings have been planted during the past year, especially in the District of Davao, the Island of Basilan, and along the east and west coasts of the Zamboanga peninsula.



TYPE OF BALDWIN LOCOMOTIVE FOR THE PHILIPPINE RAILWAY CO.

The reports show the following total number of trees growing on ten plantations at the present time.

Para rubber	(Hevea braziliensis)	9,000
Ceara ,,	(Manihot glazovii)	61,000
Castilloa ,,	(Castilloa elastica)	1,000
	Total number	71,000

Assuming that the young plants and seeds were set at a distance of 15×15 feet, 71,000 trees would cover an area of 366 acres, divided among the different species as follows:—

Para rubber	47 acres.
Ceara ,,	313 ,,
Castilloa ,,	6 ,,
Total	366 acres.

As returns were received from only a part of the rubber planters, these figures represent not more than two-thirds of the total acreage.

The planting of Para seed at stake has not been a success, but young nursery raised seedlings, stumped at the time of transplanting to the permanent site, have made a good growth in every case. Ceara seeds are always planted at stake, but Para and Castilloa are usually germinated in a nursery and set out when from 15 to 24 inches in height. Experimental plantings of Ceara seeds have not proven a success, the young plants, apparently, being too tender to stand the transplanting.

Abaca, coffee, cacao and cassava have been tried as intercrops with rubber, and seem very satisfactory. The ordinary planting distance in Mindanao for rubber trees is 15 feet, but if abaca is used as an intercrop, the trees should be planted 20 feet apart.

In the immediate vicinity of Zamboanga, except in the foot-hills of the mountains, rubber makes a slow growth, presumably because of the relatively small rainfall. In the remainder of the Zamboanga peninsula, the Island of Basilan, around Dumanquilas Bay, and in the Districts of Cotabato and Davao, the three leading species of rubber producing trees (Para, Ceara and Castilloa) grow vigorously.

In general, the rubber trees have but few enemies. In some cases ants destroy the seeds before germination in the seed-bed takes place, and, if the plantation is located on low wet ground, the trees are sometimes subject to dry rot. In a few plantations trees have been uprooted or broken off by deer. Carabao are fond of Ceara seedlings.

The percentage of germination of Para varies from 30% to 80%. In the latter case there as an ultimate loss of about 50% of the seedlings. Ceara seeds are very hardy, the percentage of germination rarely falling below 75%, and often reaching as high as 98%. The one report on Castilloa shows a good germination of 10% with no loss in transplanting.

As rubber trees require a rich, mellow soil, they are usually set out on newly cleared, unplowed, forest land. One planter reports that plowing causes the trees (Ceara) to branch close to the ground, and from such a large top that they are liable to be overthrown by the winds. In exposed situations the plantations should be divided into blocks by narrow strips of forest, which will act as wind breaks.

The reports indicate that there are large numbers of seedlings at present in the nurseries of the southern planters. These will probably be set out next year at the beginning of the rainy season. Large orders for seeds are being placed with Singapore and Ceylon dealers. Para and Castilloa can only be purchased in those places, but Ceara seeds can be obtained in large or small quantities from planters in Zamboanga.

Rubber culture has now passed beyond the experimental stage. Borneo is already marketing plantation rubber and in a few years Mindanao ought to do the same.

U. S. ENGINEERS' NEW TUGBOAT

The trial trip of the tugboat "Engineer," built by the Hongkong and Whampoa Dock Co. of Hongkong was made January 7 in Manila Bay. The distance between Manila and Corregidor and return, a distance of 50 miles, was covered at a mean speed of about 12 knots an hour. The builders were represented by Messrs. Findlay & Co, the Manila agents, and Captain G P. Howells represented the Engineer Corps.

The dimensions of this vessel are: length, 106 feet; breadth, 20 feet; depth. 11 feet. She is fitted with two sets of Triple Expansion engines driving twin screws and is capable of developing 500 H. P. All the cabins are finished with polished teak and the vessel is equipped with electric light throughout.

The Engineer will be employed as tender and tow boat between Manila, Corregidor and Subig Bay. Her seagoing qualities were tested on her trip from Hongkong, through a strong monsoon, which was accomplished in three days without the slightest strain.

ELECTRIC EXTENSION TO PASIG OPEN

The electric line connecting Pasig with Manila, a distance of eight miles, was thrown open to the public January 4. The line to McKinley has been opened for about nine months. For the present the passengers cross the Pasig river by means of a ferry but the bridge at that point will soon be completed. The traffic over this line has been highly satisfactory. Messrs. J. G. White & Co. are the contractors.

REPORT ON ANALYSIS OF ISUAN.—The Biological Laboratory of the Philippine Bureau of Science in a report on the analysis of a sample of Isuan Mineral Water purchased in the open market and reported on January 11, announced officially that the sample was: "*Sterile Water; Contains no Micro organisms of Any Kind.*"

FAR EASTERN COMPANY REPORTS

BRITISH AND CHINA CORPORATION, (Ltd).—In the report of the directors of this company for the year ending June 30, it states that including the balance brought forward from the previous year of £10,827, the amount to the credit of profit and loss is £51,152 and having transferred £20,000 to the general reserve, the directors recommend a dividend of £7. 10s a share free of income tax, equal to a dividend of 15% on paid up stock. This leaves a balance of £12,402 to be carried forward.

THE INTERNATIONAL COTTON MANUFACTURING CO., (Ltd.).—At the twelfth annual meeting of this company held last month, the directors' report, which showed a net profit for the year of Tls. 55,581.22 or 9% on the capital stock, was submitted and accepted. No dividend was declared.

EASTERN EXTENSION AUSTRALIA AND CHINA TELEGRAPH CO.—The 68th annual meeting of this company was held November 13. The net profits for the half year ending June 30 were £132,000 and added to the amount brought forward from last report, made £150,000 available. The usual half-yearly dividend of 2s 6d a share or at the rate of 5% per annum was declared and £75,000, carried forward.

NISSHIN STEAMSHIP CO.—The first regular meeting of this company was held last month at Tokio. The total income for the half year was 138,463 yen of which 6,923 yen was set aside as a legal reserve and 121,500 yen for a dividend to be declared at the rate of 3% per annum. The remainder was carried forward.

GOPENG TIN MINING CO.—The profit for the year ending July 31 was £22,376, the largest in the history of the operations of the company. During the year there were declared one dividend of 1s 3d a share and three dividends of 1s 6d a share each. At the annual meeting a bonus dividend of 1s 3d a share was declared. The balance carried forward amounted to £9,465 18s 2d.

AMAGASAKI COTTON SPINNING CO.—The net profit for the half year amounted to 500,000 yen approximately. Of this amount, yen 150,000 went to the reserve for the depreciation of machinery and buildings and yen 187,000 was absorbed in a dividend at the rate of 5% per annum, the balance being carried forward.

NIPPON CHEMICAL INDUSTRY CO.—This company declared a dividend of 6% per annum for the first half year's operations. The first regular meeting was held December 16.

BUKIT RAJAH RUBBER CO.—This company has declared an interim dividend of 10%, or 2s a share less tax.

FEDERATED MALAY STATES RUBBER CO., (Ltd).—This company has declared a final dividend for the second working year ending May 31, 1907, at the rate of f. 15 a share.

CEYLON PEARL FISHERIES.—A dividend of 21% on ordinary shares and 75% on deferred shares was declared at a recent meeting of the board of governors. It is probable that the fisheries will be suspended pending an inspection of the banks.

PUSING LAMA TIN MINES, (LTD).—At the fourth annual meeting of this company the report submitted shows a net profit for the year of £51,678. From this was deducted £699 for income tax and £1,987 for depreciation leaving £48,992. With the addition of £2,487 brought forward from last account, there were £51,479 available for distribution. £1,131 were carried to the reserve account and £41,721 paid out in interim dividends, leaving a balance of £7,177 after paying additional remuneration of £1,449 to the directors. A final dividend was authorized of two and one-half per cent., making 45% in all for the year. After other deductions a balance of £1,233 was carried forward.

THE PALELEH GOLD MINING CO.—The report for the year ending October 31, submitted at the annual meeting held at Batavia, Netherlands India, showed a profit but did not warrant the distribution of a dividend. The chairman announced 30 stampers were now at work and were expected to yield 37,000 guilders in gold monthly and that there would be forty stampers in operation by July, 1908. It was decided that the profits for the next two years should be utilized in developing the property. The outlook is promising.

JAPAN PAINT CO.—A dividend of 12% was declared last month at the regular meeting of the shareholders of this company.

BURMA OIL COMPANY.—The Directors of the Burma Oil Company have declared the following interim dividends for the year 1907:—First Preference shares of £1 each, 7 1-5d per share (equivalent to 6 per cent. per annum to June 30, 1907), under deduction of income-tax at is, in the £1; Second Preference share of £10 each, 6s. per share (equivalent to 6 per cent. per annum to June 30, 1907), under deduction of income-tax at 1s. in the £1; Second Preference shares of £10 each (1907 issue), 1s. 6d. per share (equivalent to 6 per cent. per annum to June 30, 1907 on the amount then paid up), under deduction of income-tax at 1s. in the £1; and Ordinary shares of £1 each, 1s. 6d. per share (equivalent to 15 per cent. per annum to June 30, 1907), free of income-tax.

DELI LANGKAT TOBACCO CO.—This company will pay an interim dividend of f. 1.200 a share for the year 1907. In 1906 a 10% interim dividend was declared.

THE AMSTERDAM DELI COMPAGNIE.—This company has declared a dividend of 40% interim against 50 % in October, 1906.

NAIKOKU EXPRESS CO.—At a general meeting of this company held December 7, a dividend of 13% was declared.

TOKYO STOCK EXCHANGE.—At the meeting of the shareholders of this company, December 23, a dividend for the second half of this year of 10% was declared.

THE EASTERN TELEGRAPH.—The net profit for the half year ending June 30, 1907, £349,876 to which is added £1,252 brought forward, making in all an available balance of £351,128. Out of this have been paid two quarterly dividends on preference stock, income tax, interest on mortgage debenture stock which absorbed £82,477 in all, a balance of £268,651 remained. Out of this the directors placed £7,000 in the reserve fund for ships' maintenance, £120,000 to the general reserve fund and allowed £100,000 to meet the two interim dividends of one and one-quarter per cent. each on the ordinary shares, the balance being carried forward to next account.

TOKYO ELECTRIC RAILWAY CO.—A dividend of seven and one-half per cent. was declared at a meeting of this company held December 25, for the half year just ended.

KALUMPONG RUBBER CO.—The directors report for the first year ending August 31, shows an area of 2,080 acres in rubber with 258,098 trees. The undeveloped area is 1,419 acres. The yield of dry rubber from 14,500 trees tapped during the year was 16,271 lbs. The sugar growing part of the estate yielded 24,591 piculs of basket sugar. The working account showed a profit of 12,030.30 Tls., which was transferred to profit and loss, and after writing off the preliminary expenses incident to the organization of the company left a credit balance of 11,844.48 Tls. which was carried forward.

DAI NIPPON SUGAR REFINERY CO.—At the semi-annual general meeting of the shareholders of the Dai Nippon Sugar Refinery Company the following accounts and distribution were submitted and unanimously adopted:—

	Yen.
Gross profit	793,502
Brought from last term	20,384
Total	813,886
To legal and special reserves	100,000
To bonus	55,545
Dividends to shareholders (15% per annum)	562,500
Special dividends (2.5% per annum).	92,500
Carried forward	3,341

VALLAMBROSA RUBBER CO.—This company has declared a dividend of six pence a share making in all 50% for the year.

TOKYO ELECTRIC LIGHT CO.—At the half yearly meeting held December 21, a dividend of 10% was authorized.

SHANGHAI MERCURY (LTD).—At a meeting of the directors last month, an interim dividend of 4% was declared for the half year ending October 31.

YOKOHAMA ELECTRIC RAILWAY CO.—At the general meeting held December 25, a dividend of 6% per annum for the last half year was declared.

TOKYO ROPE MANUFACTURING CO.—At a meeting of the shareholders December 18th, a dividend of 20% was declared.

TOKYO RICE EXCHANGE.—The directors have declared a dividend of 21% for the second half of 1907.

NIPPON FLOUR CO.—On December 16 a dividend of 28% was declared for the half year just concluded.

TOKYO GAS CO.—The announcement is made that this company will declare a dividend of 15% at the semi-annual meeting to be held January 20, in reference to the half year's business ending December 31.

SHANGHAI ELECTRIC AND ASBESTOS CO., (LTD).—An interim dividend of 4% payable January 15, is announced by this company.

ORIENTAL CONSOLIDATED GOLD MINING CO.—This company has declared a dividend of 60 cents gold a share.

EWO COTTON SPINNING AND WEAVING CO.—Messrs. Jardine, Matheson, the general managers of this company, announce that the consulting committee has recommended the payment of Tls. 2.50 a share or 5% on the subscribed capital.

KEIHIN ELECTRIC RAILWAY CO.—A dividend of 11% for the second half year has been declared by this company.

NAIKOKU EXPRESS CO.—On December 7, at a general meeting of the shareholders a dividend of 10% for the second half of the year was declared.

KUALA LUMPUR RUBBER CO.—For the fifteen months ending June 30, 1907, a dividend of 3% was declared leaving £2,103 to be carried forward.

HOKKAIDO COLLIERY & STEAMSHIP CO.—At a meeting held December 7, a resolution was adopted recommending a dividend of 14% for the second half of the year 1907.

TOKYO STOCK EXCHANGE.—The directors will recommend a dividend of 11% for the second half of the year.

TOKYO TRUST CO.—At a general meeting held December 21, a dividend of 10% was declared.

DOMESTIC TRANSPORT CO.—At the half yearly meeting held last month, a dividend of 10% was declared for the term.

PENINSULAR & ORIENTAL S. S. Co.—The 67th ordinary meeting of this company was held December 10 and besides the usual dividend of 5% per annum on preferred stock it was recommended that a dividend on the deferred stock of six and one-half per cent. for the six months and a 3% bonus be paid, making, with the interim dividend of three and one-half per cent. paid in June, a total distribution on the deferred stock of 13% for the year.

UNION ESTATES AND INVESTMENT CO., (LTD).—At the ordinary meeting of this company held at Yokohama, December 19, a dividend of 7% was declared for the first nine months ending September 30.

SOUTH MANCHURIAN RAILWAY CO.—The second half-yearly meeting of the shareholders of this company was held at Tokyo, December 14 and a dividend of 6% per annum for the term was declared. The company's income for the term was 4,700,000 yen approximately, out of which there were 1,980,000 yen disbursed for business expenditure; 1,760,000 yen for construction and 200,000 yen for general expenses.

TOKIO ELECTRIC LIGHT.—The business condition of the Tokyo Electric Light Company for the present term is reported to be satisfactory. As a result of the installment on the new shares just paid in and the incorporation of the Tokyo Electric Power Co. which totals 340,000 yen the dividend for this term is expected at the rate of about 10 per cent The construction of the water power electric pressure station at Waseda of the company has been recently completed. The new structure will undergo the inspection of the authorities in a few days.—*Japan Times.*

MALAY STATES COFFEE COMPANY, LIMITED.—Minutes of an extraordinary general meeting of shareholders held at the Registered Office of the Company, No. 1, Baillie Streets Fort, Colombo.

Present.—Messrs. James Ryan (in the chair), E. M. Shattock, A. A. Hankey; F. P. Williams, by proxy, E. M. Shattock; R. B. McComb, by Attorney, E. M. Shattock; J. W. Bakewell, by Attorney, E M. Shattock; W. R. S. Agar, by Attorney, C. E. Haslop.

Proposed by Mr. Ryan that the special resolution which was passed at the meeting on September 24th, 1907, viz:—"That the Company go into voluntary liquidation and that Mr. H. P. Church be appointed Liquidator on a fee of R500" be confirmed, carried.

THE NIPPON YUSEN KAISHA

At the half-yearly general meeting of the Nippon Yusen Kaisha, held in Tokyo on 27th ult., Mr. Kondo, President of the Company, stated that both the goods and passenger traffic on all lines, coasting and foreign, had shown much prosperity during the half-year under review, but owing to the advance in the prices of commodities and the increase in wages, etc., together with the decline in freight due to the increase in shipping, the result of the working of the company had not proved altogether favorable.

The board of directors had resolved to raise the rate of freight as far as practicable and to promote every effort in order to obtain better results in the future; but the President's tone was anything but optimistic, and he expressed the fear that the results during the coming period might be even more unsatisfactory in consequence of the further advance in prices of commodities generally and the general depression of trade.

After a few questions had been put by shareholders, a motion was proposed that the amount to be set aside as bonuses for the directors and auditors should be calculated in proportion to the profit for each period, and further, that the sum of -Y-71,358, proposed to be devoted to bonuses, should be reduced to -Y-57,889 (5 per cent of the net profits for the period under review.) The motion was lost, and the amount originally proposed was carried by a large majority.

The meeting then proceeded to elect auditors, and Messrs. Arishima and Iida were nominated and re-elected.

According to the report before the meeting, the company's steamers in service on the coasting and foreign lines during the period under review number 81, with an aggregate tonnage of about 264,000, in addition to nine Government steamers with a total tonnage of about 35,000, together with a number of chartered vessels. The cargo carried aggregated about 160,600,000 tons, while the passengers during the half-year numbered over 340,000 and the total mileage of navigation registered by steamers of the company's was more that 1,840,000, the longest in the record of the company.

The net profit for the period under review amounted to -Y-1,757,130, but this included a surplus of -Y-599,342 brought over from the preceding period.

Of this sum, -Y-57,889 has been placed to the reserve, -Y-71,358 will be paid as bonuses to the directors and auditors, while -Y-1,100,000 will be distributed as a dividend, being at the rate of 10 per cent. per annum, an additional special dividend (absorbing -Y-220,000) at the rate of 2 per cent. per annum being also paid, making the total dividend at the rate of 12 per cent. and leaving a surplus of -Y-307,883 to be carried forward.

INTERNATIONAL BANKING CORPORATION

The following is the tenth semi-annual statement of the International Banking Corporation at close of business June 29, 1907:—

ASSETS.

Demand loans and Advances	$3,854,633.32
Time loans	2,005,148.15
Securities and Investments	5,630,706.99
Commercial Credits	3,142,740.77
Bills discounted	3,204,165.43
Furniture and fixtures (Less 20 per cent depreciation semi-annually)	96,694.45
Bullion & Remittances in transit	10,426,251.95
Due from Banks and Correspondents	534,774.89
Cash on hand and in local depositories	4,440,695.31
Total	$33,335,811.26

LIABILITIES.

Capital	$3,250,000.00
Surplus	3,250,000.00
Profit and Loss	218,244.55
Dividend Payable October 10, 1907	65,000.00
Acceptance, Bills and Drafts on and Payable by Branches and Correspondents, and against Bills Receivable or Bullion in Transit	10,643,830.07
Notes in Circulation	202,473.85
Due Banks and Bankers	936,559.90
Deposits, time	4,540,908.79
Deposit, demand	10,228,793.10
Total	$33,335,811.26

NEW PUBLICATIONS

Mining in Malaya for Gold and Tin, by C. G. Warnford-Lock, M.I.M.M., F.G.S., from the presses of Messrs. Crowther & Goodman, London, Eng., which has reached our desk, is one of the most valuable publications on the development of the mineral wealth of the Malay peninsula, from the viewpoint of a practical and experienced mining engineer and mine manager with years of service in the territory of which he writes. A sketch map of the Malay peninsula, giving an outline of the different tin and gold mining centers, is included in the volume together with 104 illustrations that give a comprehensive idea of the methods employed in the different mining enterprises.

In his foreword, he subjects the government of the Federated States to severe criticism that will have some weight and British officials interested will no doubt be benefited by reference to views from one who knows whereof he writes. Mr. Warnford-Lock announces that the object of the volume is to convey as closely as may be an idea of the present condition and possible future development of the gold and tin mining industry in the Malay Peninsula." From a cursory review of his work there is every evidence that he has succeeded admirably.

Commenting on the discouraging outlook for British capital, he writes:

"In a land where the government is an absolute Bureaucracy unrestrained by Parliament, Press, or Public Opinion, it is, perhaps, not extraordinary that the interests of British capital are lost sight of. To the British official 'the stranger within our gates' is always dearer than are his own countrymen.

"No picture of the mining industry of British Malaya which ignored the heavy shadows introduced by official ignorance and mischievous legislation could serve any useful purpose. Therefore no apology is needed for the use of strong colors in bringing out the disabilities under which the British capitalist and British mining engineer are laid in this newest of British dominions."

He calls attention to the fact that the Chinese have been practically given control of the best mining areas and says:

"The great fetish of this very young and very incompetent government is the Chinaman. The Chinaman can do no wrong To the Chinaman are given enormous areas of rich alluvial land, while from the British company is taken away, at the first opportunity even that which it hath, viz., the lode mining ground which was leased to it before the British official came into being. To the Chinaman alone is granted the right to pander to the vices of his countrymen—the supplying of opium and liquor, and the control of the gambling dens—whereby, in very many cases, the coolie becomes the veritable chattel of the wealthy Towkay. In a word, the Chinaman brings nothing into the country and takes everything out of it. The Chinaman embarks only on those enterprises where his sole outlay is on coolie labor—which can be dismissed at short notice, should the undertaking be rendered unprofitable through falling markets or otherwise, and out of which, in any event, he looks to recover the major part of his money through the medium of his opium and gambling hells. The Chinaman, whether Towkay or coolie, finally goes back to China with his earnings. The Chinaman has no fancy for the risks of lode mining and the sinking of large sums in plant and machinery.

"Now the best, the richest and the most accessible mineral deposits of British Malaya—the tin bearing gravels with a splendid water supply—have already been monopolized by the Chinaman. The still undeveloped territory, whether lode or alluvial, demands heavy outlay in machinery, with greater risks and poorer returns. This is left to the British capitalist and the British mining engineer, because the Chinaman wants none of it. The question for the Britisher to decide is whether the prospects warrant the investment, whether the Independent Malay, Malay-Siamese and truly Siamese territories near at hand do not offer superior inducements."

In concluding his foreword he writes—"I have written nothing which I have not myself seen."

The volume contains four tables of great value including Sterling and Straits Moneys Equivalents; Straits Weights and Measures; Equivalent Prices per kati and per lb.; and equivalent prices per pikul and per cwt.

There is an interesting chapter each on Climate and Health; Laws and Regulations; Timber and Firewood; Taxation; Labor; Transport; Travel and Communication. The balance of the volume is divided as follows:

Three chapters on gold mining; and six chapters on tin mining, with illustrations. For sale at Messrs. John Little & Co., (Ltd.), Singapore. Price, $6.00 Straits Currency.

MANY THANKS

The staff of the FAR EASTERN REVIEW takes pleasure in acknowledging the receipt of a delightful "felices pascuas y año nuevo," in the form of several boxes of exquisite cigars and cigarettes, from the Compañía General de Tabacos de Filipinas.

NEW DIRECTORIES

Rosenstock's Hongkong, Manila, Shanghai Directory for the first part of 1908 has just been issued by the Publishers, also a "Hong" list of Shanghai.

The Directory is divided into four parts—Manila, Hongkong, Canton, and Shanghai sections—indicated by index tabs projecting from the edges of the leaves, making it a very easy matter to consult any section at once.

Price ₱12 a year or ₱7 a copy. The small edition for Shanghai costs $3.50 a year. Offices in Manila, Hongkong, and Shanghai

FAR EASTERN ENGINEERING, CONSTRUCTION, COMMERCIAL AND FINANCIAL NEWS

ELECTRIC RAILWAY, LIGHTING, POWER, TELEGRAPH LINES, ETC.

MANILA ELECTRIC LIGHTING.—The Philippine capital is now lighted by 244 arc lights recently installed, the incandescent street lights being removed.

NANKING ELECTRIC RAILWAY.—The first sod of the tramway at this point was turned by H. E. Tuan, Viceroy of Liangkiang province, on November 25.

WIRELESS FOR SINGAPORE.—Negotiations are now in progress which may result in the establishment of wireless stations at Colombo, Minicoy and Singapore.

SHIBUKAWA-NUMADA ELECTRIC RAILWAY.—The projected line between these two points in Gumma prefecture, a distance of 19 miles, is now under construction.

ELECTRIC PLANTS FOR U. S. FORTIFICATIONS.—Congress has been asked to appropriate 502,992 dollars to install electric plants at Manila, Subig, Honolulu and Pearl Harbor.

CANTON-KONGMUN TELEGRAPH LINE.—A message to the *China Mail* from Canton under date of December 11 announced the opening of telegraphic communication between these two points.

WIRELESS TELEGRAPHY IN CHINA.—Regulations have been drafted by the Board of Communications at Peking governing the introduction of an extensive system of wireless telegraph stations throughout China.

JAPAN'S IMPERIAL POSTS, TELEGRAPHS AND TELEPHONES.—The income from these sources for the next fiscal year is estimated at about 36,000,000 yen, an increase of 1,800,000 yen over the income for 1907.

TOKYO TRAMWAY MUNICIPALIZATION.—The Tokyo municipal council has decided to purchase the Tokyo Electric Railway holdings. The price named is 67,500,000 yen. It is expected that the transfer will be made in March.

WIRELESS IN AUSTRALIA.—The Postmaster General of the commonwealth has decided to invite tenders for the installation of wireless telegraph stations at every port on the coast of Australia for the purpose of communicating with passing steamers.

TELEGRAPH LINE TO TIBET.—The Viceroy of Szechuen is preparing a report upon the roads connecting Chengtu, Szechuan, and Lhassa via Tachienlu and to submit estimates on the cost of installing a telegraph line to the Board of Communications at Peking.

WIRELESS PROJECTED ACROSS THE PACIFIC.—The British Colonial office has announced that the establishment of a wireless telegraph system extending across the Pacific is entirely practical and that steps will soon be taken by the British government to install a system with stations at Vancouver, Fanning, Tongo group, Fiji, Ellice Island and Australia.

LARGE JAPANESE ORDER FOR ELECTRICAL EQUIPMENT.—The Kabushika Kwaisha Mihon Seiko Sho has placed an order with the Lancashire Dynamo and Motor Co. of Manchester, Eng., for the equipment of its generating station. This consists of three 1,000 Kilowatt generating sets of Belliss Triple expansion engines and compound interpole generators for three-wire supply at 440 volts across the outers. together with piping, condensers, switchboards, cables, etc., and over 300 motors have been ordered for driving the machinery in connection with the plant and machine shops.

ANGLO-JAPANESE HYDRO-ELECTRIC POWER CO.—A license was issued on December 6th, by the Minister of Home Affairs at Tokyo to this company which has been organized with a capital of 10,500,000 yen for the purpose of supplying electricity for power and light to Shizouka and other cities on the Tokaido by utilizing the cataracts of the Oi river. Of this power, 66,000 H. P. will be developed at Tamochimura; 27,000 additional at a point between Ikamamura and Hambaraumechi and 8,000 H. P. at Ushinakubi. The erection of the largest plant has been postponed but the work on the other two plants will commence in January this year. The estimate is placed at 10,000,000 yen for the construction of the two smaller plants. Half of the stock has been subscribed equally by British and Japanese capitalists.

RAILWAYS AND RAILWAY SUPPLIES

DEPOT AT CHANGCHUN.—This station was opened by the Japanese December 1.

AMERICAN RAILS FOR JAPAN.—An additional order for 15,000 tons of steel has been placed with the American Trust by the Japanese government.

KUANGSI RAILWAY.—A subsidy of one million taels has been authorized by the board of finance at Peking for the proposed Kuangsi railway.

PEKING-HANKOW RAILWAY.—Traffic on this line was interrupted by a break in the bridge near Sinyanchou, Honan, for about ten days last month.

KILIN-CHANGCHUN RAILWAY.—This line, which when completed will be 50 miles in length, will be commenced next March. The preliminary survey is now under way.

URGA KALGAN RAILWAY.—Engineers will be dispatched next spring by the Peking authorities to survey the route of the proposed railway between Urga and Kalgan.

NEW PEKING RAILWAY DEPOT.—The foundations of the railway depot at Chien-men, Peking, are under way. The contractors are Messrs. Adams & Knowles of Tientsin.

CHENGTING-TECHOW LINE.—The Board of Communications at Peking has authorized the survey of the proposed railway route between Chengting and Techow via Schichia Chuan.

CHINESE IMPERIAL RAILWAYS.—A dispatch from London announces the appointment of Manager Steel of the Caledonian Railway Co. as traffic manager of the Chinese Imperial Railways.

THE MANILA RAILWAY CO.—The traffic receipts for the week ending November 9 were $29,680 against $22,999 for the corresponding month, 1906, making an aggregate of $1,888,784 for the year.

AUSTRALIAN LOCOMOTIVES.—The Clyde Engineering Co. (Ltd.) of Granville, Sydney, has turned out four large freight engines and one passenger engine which have been accepted by the government.

KALGAN-KULUN RAILWAY.—The work of construction of this line will commence in the Spring, according to a report from Peking, and the capital not covered by interior loan will be subscribed by Mongolian princes.

NEW JAPANESE LOCOMOTIVES.—The Japanese Railway Bureau has ordered four new locomotives of high speed from the Kobe shops for the purpose of increasing the speed of the express trains on the Tokaida and Sanyo lines.

HONAN RAILWAY CONSTRUCTION.—Natives of Honan have notified Peking that the construction of the great railway through the provinces of Honan, Shensi and Kansu will be built through their province with local capital.

PAKHOI-NANNING RAILWAY.—A joint syndicate of Foreign and Chinese capitalists with a capital of Tls.5,000,000 is being organized in Canton with the purpose in view of constructing a railway between Pakhoi and Nanning.

SOUTH MANCHURIAN RAILWAY EXTENSION.—The Taotai at Yinkow has filed a protest with Peking against the extension of the South Manchurian Railway to that point. The railway officials continue their preparations however.

LUHAN RAILWAY PROFITS.—The report for the year contains the information that this line made a profit of over a million and one-half dollars. The freight carrying from Hankow gives the road a greater portion of its revenues.

KANSUH-SINKIANG RAILWAY.—The construction of a line between Kansuh and Sinkiang via Ili, one-third of the expense to be borne by the board of finance and the balance by the provinces interested, is being seriously considered at Peking.

CENTRAL MANCHURIAN SURVEYS.—The joint survey of the proposed Kirin-Chanchun line is expected completed in the Spring so that the construction will not be delayed. It is expected that later the line will be extended to I-Tung-Chow.

MACAO-CANTON RAILWAY.—Canton capitalists are anxious to construct the railway between Canton and Macao and have asked Peking to confirm the cancellation of the agreement with Portugal in connection with this proposed construction.

DOUBLING MANCHURIAN RAILWAY.—It is expected that the entire work of doubling the line from Tairen (Dalny) to Sukiantun will be completed by the end of 1908. The line is divided into 15 sections, ten of which are now in course of construction.

SOUTH CHINA RAILWAYS.—The Hunan Railway Co. is negotiating a loan of three millions from the Yuet-Han Railway Co. The Viceroy at Canton is in receipt of a petition asking for permission to construct a branch railway from Kong Mun to Fat Shan.

CHINA'S RAILWAY MILEAGE.—China's total railway mileage is 3,740 miles and is controlled by foreign nationalities as follows: Japan, 730 miles; Russia, 1831 miles; Britain, 725 miles; France, 50 miles; Germany, 343 miles. China controls but 61 miles of the entire system.

SHANGTUNG RAILWAYS.—The proposed line connecting the Shangtung coal mines with T'aierhchwang near the Grand Canal has not yet been surveyed. The construction of this road has been the subject of much agitation and the prospect for its early construction is not bright.

CHENTING-TAIYUAN BRANCH.—The board of posts and communications at Peking has reported that there will be a deficit for 1908 in the operation of this branch of the Peking-Hankow Railway owing to the undeveloped state of the country which it taps. This branch was but recently completed.

SIAMESE ROYAL RAILWAY SHOPS.—The contract for the construction of the steel wagon repairing shops at Bangkok has been awarded Messrs. Howarth Erskine (Ltd.) Over 500 tons of steel will be used in the construction and the shops when completed will be fitted with an electric overhead traveling crane.

GERMAN RAILWAY CONCESSION.—A movement is on foot among German capitalists to secure a concession from the Peking government to construct a railway connecting Tsinan and Kaifeng. The natives of Shantung and Honan are greatly interested in the project but as yet no protest has been filed.

N. S. W. RAILWAY COALYARDS.—Great activity is reported from North Carrington, Newcastle, N. S. W., in providing connection with the dyke there to relieve the congestion in coal traffic. The yards are being enlarged and already over 60 miles of main lines and sidings in the yards have been completed. Engine sheds are being built and additional earthworks made in order to provide space for 120 sidings which when completed will accommodate 5,000 coal cars.

PEKING-MENTOUKOU BRANCH.—The branch line of the Kalgan R. R. connecting Peking with Mentoukou, a distance of about 15 miles, was opened to traffic November 21, as far as the terminal station at Sanchialien. The road will be extended farther over the Huncho, a distance of five miles to Mentoukou, next year. The road will be utilized especially for the transportation of coal from the many mines in the foothills and it is expected that the country thereabouts will be developed into an attractive summer resort.

MONGOLIA RAILWAY DEVELOPMENT.—A syndicate with a capital of Tls. 2,000,000 has been organized by Chinese capitalists for the purpose of developing Mongolia, and a general survey of the territory has been ordered with a view to the construction of railway lines and otherwise to develop the country. It is understood that a secret survey has been made by Russian engineers of a line of railway from Tomsk tapping one of the richest sections of this territory, but the Chinese authorities are opposing any Russian enterprise in that direction.

WOODS-GILBERT RAIL PLANER.—Two Melbourne engineers have invented a rail planer designed to remedy the defects caused by wear to tramway and railway tracks. According to the *Australasian Hardware and Machinery*, it is claimed that the apparatus will restore a worn out tram track at a cost of less than £150.00 a mile. It will cover 12 miles of track an hour and is provided with its own turntable. With heavy headed rails the top-dressing might be repeated several times with great saving. The machine is manufactured in Melbourne.

KOWLOON-CANTON RAILWAY.—The report of the department of public works of Hongkong contains a resume of the work on the Kowloon-Canton Railway up to May 18th, 1907, under its supervision. This shows 2.58 miles of embankment and .17 miles of cutting completed to formation level and .57 miles of embankment and .07 miles of cutting partially completed. Channels to the length of about half a mile were also constructed for the proper diverting of water from the streams that crossed the route surveyed, obviating the construction of bridges.

PUBLIC AND PORT WORKS, WHARVES, DOCKS, ETC.

PHILIPPINE FORTIFICATIONS.—Congress has been asked to appropriate $6,488,000 for fortifications in the islands.

YOKOHAMA IMPROVEMENTS.—The committee on improvements has recommended the expenditure of Yen 400,000,000 on the harbor and public works of this city.

TSURUGA HARBOR IMPROVEMENTS.—The sum of 160,000 yen has been appropriated by the Japanese authorities to be expended in this work during the year 1908.

THE FOOCHOW DOCKYARD.—The Ministry of Finance has sent Tls. 600,000 to the Viceroy of the Min-che provinces for the reorganization of the Foochow Dockyard.

CANTON GAS WORKS.—A company is being formed, says the *China Mail*, for the purpose of supplying Canton with gas. A petition is now in the hands of the department of agriculture asking for a franchise.

PARRAMATTA, N. S. W., SEWER SYSTEM.—This system will cost when completed in the vicinity of £30,000. The construction will require 117,142 feet of earthenware pipes, 2,696 feet of Monier pipes and 628 manholes.

NEWCHANG IMPROVEMENTS.—The Chinese Chamber of Commerce at this port are agitating modern improvements and a system of drainage is being inaugurated to be followed by the macadamizing of the principal streets.

NAYOGA'S NEW PORT.—The opening of the new harbor at this port was celebrated last month. This extensive improvement was paid for by the people of Nayoga and Atsuta, its port, which together marshal a population of 314,000.

CHINKIANG WATERWORKS SYSTEM.—A Chinese company is being organized to install a waterworks system in Chinkiang. While the plans are not yet complete, it is understood that a foreign engineer has been consulted by the promoters.

DAVAO DOCKS.—Engineer Vance of the Moro province has completed the survey of the new dock site at Davao. The main pier will be 900 feet long and the "T" will be 36 by 200 feet. The road connecting the port with the town has also been surveyed.

DOCKYARD AT CHEMULPO.—The Chemulpo Dockyard Co., organized with a capital of 3,000,000 yen, has secured a site near the naval coal depot on Rose Island. A quarter of the necessary capital has been subscribed and work of construction commenced at once.

DREDGING THE LIAO RIVER.—Mr. Drake, the well-known engineer who was selected by the Peking authorities to make a survey of the feasibility of maintaining a water way between Mukden and Newchang, has made his report. He states that the project is one requiring some enterprise but that the navigation of the river is feasible. The expenditure of 100,000 yen in the construction of breakwaters, together with the dredging, would provide a permanent navigable channel.

YOTSUYAMA HARBOR WORKS.—A new harbor is in course of construction near Yotsuyama in order to provide better transportation facilities for the product of the Miike coal district. The area of the outer harbor is 250 acres and the area of the docks 23 acres with a depth of 26 feet alongside at high neap tide. The harbor is approached by a channel 2,000 yards long and 300 yards wide with a depth of 18 feet at low water. Three large coal hoists are to be installed on the quay having in all a capacity of 7,000 tons every 24 hours.

SINGAPORE DOCK EXTENSION.—The successful bidder for the contract of extending the docking facilities at Singapore and the reconstruction of the wharfage range was Messrs. Sir John Aird & Co. The decision was arrived at on the authority and advice of Messrs. Coode, Son and Matthews, consulting engineers, and Mr. J. R. Nicholson, chairman of the Tanjong Pagar Dock Board. The amount of the tender, says the *Free Press*, is £998,700 and covers the construction of the new West Dock and the construction of the Main Wharf.

SHIPBUILDING, GENERAL MARINE, FISHERIES, ETC.

DOCKS ET APPONTEMENTS CO.—The China Critic announces the launching from these docks of a powerful tugboat, November 20.

MITSUI BISHI DOCKS.—It has been announced that the Mitsui Bishi Shipyards at Nagasaki are so overrun with orders that it became necessary to decline contracts from Manila to Vladivostock.

RUSSIAN SHIPBUILDING ENTERPRISE.—The Council of National Defense is considering a recommendation made by the Minister of Marine for the establishing of a government shipbuilding yard at Nikolaieffsk, situated on the North bank of the Amur river.

KAMO MARU LAUNCHED.—Another of the four sister ships ordered by the Nippon Yusen Kaisha from the Mitsui Bishi Dockyard and Engine Works was launched at Nagasaki December 24. She will be used in the European service and is 8,770 tons gross.

JAPANESE SUBSIDIES.—The Japanese budget for the next fiscal year includes Government subsidies for steamship services, including: -Y-2,673,895 for European lines; -Y-1,012,830 for San Francisco; -Y-654,030 for Seattle; and -Y-473,092 for Australian. The total is -Y-5,022,057.

MORO PEARL FISHERIES.—Mr. V. J. Clark, the Australian pearling expert who has been looking over the pearling grounds in Moro waters, is reported to have arranged for the construction of a fleet of vessels at Dobo, Dutch East Indies, with which he will engage in the business in Jolo waters.

KAGI MARU TRIAL TRIP.—The trial run of the O. S. K. steamer *Kagi Maru*, constructed by the Kawasaki Dockyards, was made recently in Osaka Bay with satisfactory results. The steamer has a displacement of 2,500 tons and a speed of 15 knots. She has been put in commission between Yokohama and Formosa.

RUSSIAN STEAMSHIP SUBSIDIES.—The Russian government has decided to provide a subsidy of 950,000 roubles for the first year and 665,000 roubles a year for the next ten years to encourage the carrying trade in the Far East and will distribute this amount among the following lines: The Tsuruga-Vladivostok line; Vladivostok, Fusan, Nagasaki and Shanghai line; the line between Vladivostock and various ports in Japan, Korea and China and the Vladivostok-Nikolaevsk line.

CHIYO MARU LAUNCHED.—This vessel, the sister ship of the Tenyo Maru, built for the Toyo Kisen Kaisha, was launched from the Mitsui Bishi Engine Works and Shipbuilding Yards, Nagasaki, on December 7. She was built in 24 months, her keel being laid in November 1906. She will accommodate 159 first class passengers, 138 second class and 826 third class, a total with crew of 1,370. Her dimensions follow:

Total length	570 ft.
Breadth	63 ft.
Draught	31 ft. 8"
Displacement	21,550 tons.
Speed	19 knots.
Horse power	16,850

JAPANESE TURBINE STEAMERS.—The *Hirafa Maru* and the *Tarmura Maru* are two sister ships now being completed by Messrs. William Denny and Brothers, Dumbarton, to the order of the Japanese State Railways, and it is stated that they will be the pioneer turbine steamers to engage in merchant service in Japanese waters. The *Hirafa Maru* has been put through very exhaustive speed and consumption trials, and will shortly leave for the East. The contract speed was 18 knots, and as the mean of eight runs on the Skelmorlie measured mile, the speed attained was 19.08 knots. With the contract dead-weight of 250 tons on board, the vessel was also subjected to a six hours' steaming test at the contract speed of 18 knots, and the coal consumption was found to be well below the guarantee. Special progressive trials were run with two different sets of propellers and the results were noted as regards speed, economy and vibration. The vessels are 280 ft. in length, 35 ft. moulded breadth, and 21 ft. 6 in. moulded depth. They are for service on the Tsugaru Straits, and will link together the railways of the two islands of Japan.

MINES, MINERALS AND THE METAL TRADE

MALACCA TIN DREDGING CO.—The machinery for the equipment of this company's plant is expected to be installed by the end of January.

PARAPARA, N. Z., IRON DEPOSITS.—A company with a capital of £600,000 is being promoted for the purpose of developing the rich iron deposits at Parapara, New Zealand.

FAR EASTERN MINING CO.—A Russian company with a capital of 100,000 roubles has been organized for the purposes of developing properties in the Far Eastern provinces.

CHIENTAO SILVER DEPOSITS.—Japanese and Koreans are reported prospecting on the Korean-Manchurian boundary for silver and a protest has been filed by the Manchurian authorities.

JZUSHIDERA COPPER MINE.—The Japanese government has granted a charter to Mr. Ishiwara of Osaka authorizing him to develop the rich copper deposits in Kita district, Ehime-ken.

SERENDAH HYDRAULIC TIN MINING CO.—*In Tinland* announces that this company is about to install a crusher to deal with the large quantity of stanniferous stone exposed in the operations of the company with its monitors.

PERAK MINING SYNDICATE.—The report is gaining circulation that a large syndicate is being organized to purchase the mining properties of Towky Lok Yew in the State of Pahang. The price named is said to be $7,000,000.

SILVER DEPOSIT NEAR OSAKA.—Twenty-seven lumps of silver ore weighing from 50 to 300 momme are reported to have been developed during dredging operations in the Bay of Kizu and the matter is being investigated by experts.

HANYANG IRON WORKS AND MINES.—A company is being formed by Chinese capitalists with a capital of 20,000,000 Tls. for the purpose of taking over the Hangyang Iron Foundry and to work it in conjunction with the iron mines at Taiya and Pingshan.

MALAY TIN OUTPUT.—The following are the returns for November: Tronoh Mines, (Ltd.), 2260.14 piculs Gopeng Tin Mining Co .(Ltd.) 520 piculs; New Gopeng (Ltd.), 225 piculs; Redhills Tin Mining Co. (Ltd.), 510 piculs; Kinta Tin Mines (Ltd.), 410 piculs.

ENORMOUS COAL DEPOSITS IN CHINA.—According to the Japan *Times* a German expert who recently inspected the coal deposits of the provinces of Shangshih and Honan, reports that there is no less than 1,200,000,000,000 tons in the vicinity of the projected colliery railways.

PANGYU-HSIEN COAL MINES.—An effort on the part of a French capitalist to secure a concession to develop the coal mines with joint French and Chinese capital has met with failure. Chinese capitalists are desirous of controlling the properties to the exclusion of outside capital.

KOREAN PETROLEUM FIELDS.—A charter has been granted to a group of Japanese capitalists in Seoul giving permission to develop the petroleum fields of Chyong-ju in North Pyon-an province, Korea. The area involved is in the vicinity of 429,471 tsuba and represents the only deposit of petroleum known in Korea.

AMERICAN STEEL FOR JAPAN.—The Carnegie mills have received an order for 15,000 tons of standard steel rails from the Japanese government to be delivered as soon as possible. The rails are to be from 72 to 90 pounds and the price delivered at Yokohama, $30 a ton. Another order for 20,000 tons may be placed in the near future.

PONTIANAK COAL CO.—This company is organizing with a capital of 250,000 guilders and is registered at Batavia. Its purpose is to develop the coal deposits in the district of Salimban, Dutch West Borneo. Certain concessions there have already been secured from Mr. J. E. H. G. David of Pontianak. Mr. J. Edgerton Wood is the managing director.

NEW FRENCH COALING STATION IN INDO-CHINA.—The French government has announced the opening of a new coal depot at Camranh Bay. The facilities are reported to be satisfactory and it is announced that no pilotage is claimed or necessary. A red light located on the jetty and two fires recently maintained, are stated to indicate the situation so that the harbor is safely entered by ships at night.

NEW LEAD AT TRONOH MINES.—The *Times* of Malaya announces that what is believed to be a continuation of the known Tronoh lead has been picked up on adjoining property. Karang was found about 20 feet from the surface and proved on further borings to be of immense depth. Options have been secured on this ground by Dr. Edgar and Towkay Foo Choo Choon and it is being systematically prospected.

HONAN IRON AND COAL MINES.—Iron ore from the deposits at Fenghwang in Hsiuwu-hsien has been tested at the Taya-hsien mine and found to be of excellent quality and the Peking Syndicate is endeavoring to secure a concession covering the property. In addition at Tsiumiaochin in Jungyang-hsien, Honan, a rich and extensive deposit of coal has been located, but the local officials are opposed to the development for the present.

JAPAN'S NOVEMBER OUTPUT.—The total output of mineral products throughout the country during November is returned at 54,118 momme of gold, 2,105,729 momme of silver, 4,764,100 kin of copper, 820,609 kwan of iron, 854,664 tons of coal, 118,098 koku of petroleum and 3,578,415 kin of sulphur. The total from January stands as follows:—gold—446,404 momme, silver—16,421,508 momme, copper—41,754,420 kin, iron—8,355,878 kwan, coal—8,224,127 tons, petroleum—1,076,940 koku and sulphur—28,280,099 kin.

THIRTY-TWO JAPANESE COLLIERIES AMALGAMATE.—Thirty-two collieries in Fukuoka, Oita and Kumamota, Kyushu, according to the Japan Mail, have been amalgamated under the name of The Japan Colliery Co. This company will control 18,000,000 tsubo of coal field area. Several of the mines have already been successfully developed and it is the purpose of the company to interest German capital in further development including a coalfield at Asakura covering an area of 5,090,000 tsubo and the construction of a new colliery railway connecting with the Kokura line. The capital of the company is fixed at 1,700,000 yen and its head office is located at Tokyo, with a branch at Moji.

FINANCIAL AND MISCELLANEOUS

FASTEST MOTOR BOAT IN FAR EAST ORDERED.—Sir Paul Chater of Hongkong has ordered a Thorneycroft motor boat to be of 100 H. P.

MALAYAN RUBBER IN FRANCE.—The Mishelin Tire Co. has found Malaya rubber so satisfactory that the company, proposes purchasing rubber properties in the Federated States.

JAPAN'S FOREIGN TRADE.—The foreign trade of Japan for the first ten days of September was 9,176,000 yen in exports and 9,632,000 yen in imports, showing an excess of 456,000 yen in the latter.

JAPANESE BANKS.—According to investigations made by the Department of Finance the number of Japanese banks throughout Japan at the end of August was 2,226 and the amount of capital represented 610,345,669 yen.

JAPANESE BANKS.—The department of finance reports that there were 2,226 banks in operation at the end of November representing a capital of 613,905,719 yen, an increase of two banks and 2,535,000 yen in capital compared with the month of October.

MARGOSA TUBIG SAWMILL.—Santiago Ruste, an enterprising Chinaman of the district of Zamboanga, is installing a sawmill at this point with a capacity of 6,000 feet daily. He has large tie and lumber contracts with the Philippine Railway Co. and the Manila Railway Co.

SUEZ CANAL RECEIPTS.—The receipts of the canal company during the last few years have averaged over £4,000,000 annually while the expenses each year do not exceed £1,600,000 leaving a handsome margin of profit for dividends. Of this Great Britain draws over £1,000,000.

PHILIPPINE EXPRESS CO.—The Inter-Island Express Co. was formed recently in Manila for the purpose of facilitating intercommunication among the different points in the archipelago. This company is the agent of the Dominion Express Co. and will co-operate with the Wells-Fargo, the Adams and the American Express Companies.

FORMOSAN SUGAR MILLS.—Three sugar mills, one at Kyoshito, another at Hozan and the third at Inisko are being installed by the Japanese government. The mill at Insiko has two sets of 12 rollers and when completed will be equal to any plant of its kind in the world, and the three combined will have a capacity of over 1,000 tons daily.

EXPORTS OF HOKKAIDO TIMBER TO EUROPE AND AMERICA.—Japanese papers state that the Mitsui Bussan Kaisha commenced some days ago the export of Hokkaido timber to Europe and America.

The Kaisha has invested about -Y-2,500,000 in the timber business in Hokkaido for the purpose of developing the export trade.

JAPAN-CHILI MONEY ORDER EXCHANGE.—On January 1, the direct exchange of money orders between the two countries was established. Money orders for Chili are to be expressed in francs and centimes and will be converted by the Chilian office into pesos and centavos at the rate of 100 francs for 53 gold pesos of 18d. The maximum amount is 1,000 francs for each order.

JAPANESE INDUSTRIAL INVESTMENTS FOR OCTOBER.—The total amount of investment in fresh industrial enterprises started during October stands at 18,390,000 yen, including 1,765,500 for banking, 2,150,000 cotton mills, 800,000 electric industry, 950,000 mining, 450,000 marine products, 1,580,000 railways and electric tramways, 5,900,000 various manufacturing industries, 100,000 yen for various commercial concerns.

CELESTIAL PROSPERITY BANK.—The *Peking and Tientsin Times* announces that Expectant Taotai of Canton Hsu has concluded a trip to Manila and Singapore where he secured the promise of sufficient support from the Chinese merchants to establish in conjunction with the Chinese merchants of Shanghai, a bank with a capital of 10,000,000 taels. The head office will be located at Peking with branches at Shanghai and Singapore.

THE MANILA RAILWAY.—The *London and China Express* commenting on the report of the liquidator says:

"The report of the liquidator states that the company entered into voluntary liquidation on June 7, 1907, as a consequence of the plan of reconstruction adopted by the shareholders and the 6 per cent, debenture holders. For the year to Dec. 31, 1906, the traffic

receipts of the main line amounted to $1,570,149, and the expenses in Manila to $689,615, making together $880,533, which at 2s. exchange is equal to £88,053. The profit on working the key line amounted to £1,211 and the profit in exchange to £1,458, while the charges in London amounted to £4,290, leaving as net revenue £86,433, out of which interest has been paid on first mortgage registered stock, £7,500, and on prior lien bonds, A and B, £33,930. In accordance with the deeds of trust governing the respective issues, the redemption was effected in June, 1906, of 190 prior lien bonds, eries A, at 105 per cent., £19,950, and 200 prior lien bonds, series B, at par £20,000. The value of the Philippine currency has been maintained throughout. Over 140,000 tons of rice were imported from China in 1906; and I consider that there is a sufficient area of valuable rice lands in the islands within the zone of existing railways to produce, if put into cultivation, ten times the crop shown in this year's statistics, and that it is only a matter of time for imported rice to be entirely superseded by the home production."

THE F. M. S. RUBBER COMPANIES

The marked success of the many companies interested in the cultivation of rubber in the Federated Malay States is the subject for an interesting and favorable review of the industry by the *Investor's Guardian of London*. "The remarkable success which characterized the reports of the rubber producing companies recently noticed in these columns," says the *Guardian*, "is again the leading feature of the latest reports to hand. Few of the companies have been in existence more than two years, though many are already yielding a substantial return on the invested capital. With few exceptions the anticipations held out in the prospectuses have been fulfilled and in many cases have been exceeded, whilst in some instances the results have been so phenomenally good as to surprise even the directors. These results will probably be vastly improved during the next few years. At present, in spite of the steadily increasing supply, there are no signs of a diminution in price. The demand still more than equals the production and for some years will continue to do so. The present production has been estimated at something like 65,000 tons and the consumption at, widely, 100,000 tons, the deficiency being made up of reclaimed rubber; and as this process of reclaiming is a very expensive one, it is extremely doubtful whether, even if the present production were doubled, any very serious drop would take place in the selling price.

"The Bukit Rajah Rubber Company, in its fourth year, has now reached a stage of substantial prosperity. A net profit has been earned of £20,635, which is an improvement of £15,667 upon that of the previous year, and represents almost 33 per cent of the paid-up share capital. With the small exceptions of £1,500 placed to reserve, and an increase of £300 to £500 in depreciation allowance, the whole of this improvement is used in the payment of the dividend of 30 per cent whilst the carry forward balance is £623 less at £888. Of the 243,580 trees planted, 88,341 were tapped, and gave a yield of 118,982 pounds against a yield of 33,203 lbs. in the previous year. The price, however, was slightly less, being 5s. 3.63d per lb. against 5s. 4.48d. To some extent the cultivation of coffee and cocoanuts has been displaced to make way for the more profitable production of rubber, and the crops of those commodities have consequently fallen. An additional 1,998 acres of adjoining jungle land were acquired during the year, 100 acres of which were cleared for planting. The estimates for the current year are: rubber 142,500 lbs., coffee 500 piculs, and 125,000 cocoanuts.

"The Cicely Rubber Estates has also had an excellent season, and has paid dividends of 20 per cent on the preference, and 10 per cent on the ordinary shares. A good harvest of 19,069 lbs. of rubber was obtained from 8,020 trees, and sold for a net average of 4s. 11d. per lb. The tappable area is at present only 159 acres, but swift progress is being made with development, and, at the end of the current year, it is expected that 814 acres will be under rubber.

"The three succeeding companies, the Langkon North Borneo Rubber, Perak Rubber Plantations, and the Sapong Rubber and Tobacco Estates, have so far not gained admittance to the ranks of dividend-earning companies. Two of them, the Langkon and the Sapong companies, have not yet begun to tap, whilst the Perak company's yield of 16,327 lbs. of dry rubber was obtained from only one-sixth of the total planted area. This realised an average price of 4s. 10d. per lb., whilst the estate expenditure was £1,877. The net result of the season's operations is a net profit of £1,014 which has been carried forward.

"The Vallambrosa Rubber Company, which has been in existence only three years, has reached a stage of abnormal prosperity. The paid-up capital amounts to only £50,000, whilst temporary loans amount to £3,000, and with this capital a profit of £30,241 has been made. This figure is arrived at after charging against revenue the entire cost of buildings and machinery during the year, and the upkeep of the portion of the estates not yet in bearing. Dividends amounting to no less than 55 per cent for the year have been paid and the carry forward is £1,983 more at £6,749. The total rubber harvested was 156,922 lbs. and sold at an average of 5s. 1½d. per lb. whilst the cost of tapping, packing and transport was 1s. per lb. A crop of 215,000 lbs. has been estimated for the current year, and of this total 59,069 lbs. had already been harvested during the 4 months ended 31st July last. The estates are not in the best condition, and, owing to the prevalence of white ants, and the possibility of damage by wind, it has been decided to thin out very gradually."

Coming as this does from one of the most conservative journals of the United Kingdom it should prove a source of the greatest degree of encouragement to the pathfinders of the Federated States and at the same time direct the attention of capital to the opportunities offered in those fertile states for most satisfactory investment.

And the success attained by the pioneer companies is a high compliment to the managers who made the splendid reports possible. The future of many productive areas has been ruined by the failure by bad management of the initial enterprises. Very fortunately this was not the fate of the Federated Malay States in so far as the development of the rubber producing industry is concerned.

NEW TRANS-PACIFIC SERVICE

Messrs. Jebsen & Ostrander of Seattle have announced the formation of a partnership as managing agents for M. Jebsen of Hamburg and have inaugurated a Trans-Pacific service from the coast with at least monthly sailings.

For the present the destination of most of the westward bound steamers will be North China, proceeding there from Puget Sound and the Columbia River, via Japan or Vladivostok On the return voyage they will take cargo from North China and Japan to California ports as well as to the Columbia River and Puget Sound.

They are also inaugurating a regular coasting service between Seattle, San Francisco, Mexican and Central American ports, and with this combined Oriental, Central and South American service will be in position to name through rates between all points on the Pacific coast and the principal ports in the Orient.

HEMP STATISTICS, 1st JANUARY, 1908.

(Courtesy of C. S. NICHOLSON, *Secretary Manila Chamber of Commerce.)*

Arrivals of hemp at Manila up 31st December 1907		757,209 *Bales.*
Arrivals of hemp at Cebu up 31st December 1907		214,349 *Bales.*
Arrivals of hemp at all Ports up 31st December 1907		971,558 *Bales.*
Stocks on hand in Manila and Cebu on 1st January 1908		63,432 *Bales.*
		1,034,990 *Bales.*
Less corrections on Stocktaking		10,282 *Bales.*
TOTAL		1,024,708 *Bales.*
Exports to all parts to date 30-12-07	887,670 *Bales.*	
Local consumption estimated at	7,679 "	895,349 *Bales.*
Total stocks at Manila and Cebu on 1st January, 1908		129,359 *Bales.*

EXPORT OF HEMP, DECEMBER, 1907.

Date	*Vessel*	*London*	*L'pool*	*Atlantic U. S.*	*Pacific East California*	*Australia*	*Other Pts.*	*Total Bales*
	F'wd:—	275,619	100,545	320,206	53,720	12,965	69,702	832,757
Dec. 1	Senegambia						1,558	1,558
" 2	Tremont	3,624	1,900		1,239		950	7,713
" "	Kumano Maru					580		580
" 4	Taming						3	3
" "	Candia		1,500					1,500
" 6	Zafiro	1,025					200	1,225
" "	Yuensang						100	100
" 7	Changsha					125		125
" "	Indrasamha.....Cebu			6,525				6,525
" 9	Senagambia.....do.						1,200	1,200
" "	Manila	26						26
" 10	Tean						200	200
" 14	Rubi						100	100
" 15	Montrose			8,023				8,023
" 16	Tsinan					40		40
" 17	Taming						150	150
" 18	Meinan	1,600					275	1,875
" 20	Nikko Maru						736	736
" 21	Zafiro	1,000						1,000
" 23	Sungkiang.....Cebu		2,477					2,477
" "	Isla de Luzon	250	1,750				152	2,152
" 27	Loongsang						1,350	1,350
" "	Rubi						150	150
" "	Benaven.....Cebu	4,721						4,721
" "	Montrose.....do.			10,225			100	10,325
" 30	Barkston						750	750
" "	Yuensang						332	332
		287,865	108,172	344,979	54,959	13,710	78,008	887 693
Less B. Hemp her Rubi 1-11-07.		23						23
TOTAL		287,842	108,172	344,979	54,959	13,710	78,008	887,670

FAR EASTERN STOCKS AND QUOTATIONS

Courtesy of Messrs. Kadoorie & Co., Hongkong, for December, 1907.

STOCK.	WHEN ESTABLISHED	CAPITAL	NO. OF SHARES	VALUE	PAID UP	RESERVE	WORKING ACCOUNT	DATE	LAST DIVIDEND.	Approximate Yield per cent. per annum at Present Quotation.*	CLOSING QUOTATIONS.
BANKS.											
Hongkong & Shanghai Banking Corporation	1865	$15,000,000	80,000	$125	$125	*g* £1,000,000; *s* $11,750,000; *i* $250,000	$1,797,167	30-6-07	£1.15[- for half year ending 30.6.07 @ ex 2[2 2/8 = $16.04 per share	5	$720
do do (new)	1907		40,000	$125	$125						$715 new issue £79-10[-
National Bank of China, Ld.	1891	£699,475	10) 99,925	£7	£6	*c* £12,735 $300,000	$71,293	31-12-06	$2 (London 3|6) for 1903	—	$51
Russo Chinese Bank	18	Rbs. 15,000,000 Tls. 2,000,000	80,000 16,000	Rbs. 187½ Tls. 125	Rbs. 187½ Tls. 125	*g* Rbs7,130,500; *s* Rbs2,000,000; *s* Tls. 800,000	Rbs 41,	31-12-06	9 per cent		Tls. 175
MARINE INSURANCES.											
Canton Insurance Office, Ld.	1881	$2,500,000	10,000	$250	$50	$1,560,000; *j* $219,058; *u* $401,959	Nil.	31-12-06	$20 for 1906	8¼	$245
North China Insurance Co., Ld.	1863	£150,000	10,000	£15	£5	*g* £125,000; *s* Tls. 100,000; *f* Tls. 48,942	Tls. 204,424	30-6-07	Final of 7|6, per share making in all 15[- for 1906 (Tls. 2.65)	6	Tls. 89 sellers
Union Ins. Society of Canton, Ld.	1867	$3,100,000	12,400	$250	$100	*s* $3,000,000; *g* £70,000; *f* $456,407; *j* £125,137.15; *u* $817,628	$1,460,490	31-12-06	Final of $12 making $42 for 1905, and interim of $30 for account 1906	5¼	$820
Yangtsze Ins. Association, Ld.	1862	$1,040,000	8,000	$100	$60	$850,000; *j* $159,143	$394,520	31-12-06	$12 for year ending 31. 12. 05	—	$145 buyers
do. do. (new)	1907		4,000	$100	$60	$1,988					$130 buyers
FIRE INSURANCES.											
China Fire Ins. Co., Ld.	1870	$2,000,000	20,000	$100	$20	$1,000,000; *x* $320,449; *f* $7,616	$362,980	31-12-06	$6 and bonus $2 for 1905	8½	$95
Hongkong Fire Ins. Co., Ld.	1868	$2,000,000	8,000	$250	$50	$1,256,483	$435,236	31-12-06	$40 for 1905	12¼	$330
SHIPPING.											
China & Manila Steamship Co., Ld	1882	$750,000	1) 30,000	$25	$25	$7,000	$365	31-12-06	$1 for 1906	6¾	$15
Douglas Steamship Co., Ld.	1883	$1,000,000	20,000	$50	$50	$264,638; *i* $96,988	Nil.	30-6-07	$4 for year ended 30-6-07	10½	$38 buyers
Hongkong, Canton & Macao Steamboat Co., Ld.	1865	$1,200,000	80,000	$15	$15	*e* $250,000; *d. i.* $550,000; *f* $ 86,989	$27,101	30-6-07	$1 for 1st half year ending 30-6-1907	7	$28 buyers
Indo-China Steam Navigation Co., Ld.	1882	*m* £600,000	2) 60,000	£5	£5	£60,000; *i* £270,000	£3,694	31-12-06	5|- @ ex. 2-2¾ = $2.24 per share for 1906	3½	$41
Do. Do (Deferred)			2) 60,000								$29
Shanghai Tug & Lighter Co., Ld.	1903	Tls. 1,500,000	20,000	Tls. 50	Tls. 50	Tls. 54,372	Tls. 13,327	31-12-06	Interim of Tls. 1¾ for a|c 1907	12	Tls. 44 buyers
Do. Preference			10,000							11	Tls. 50 sellers
"Shell" Transport & Trading Co., Ld.	1898	£ 2,000,000	2,000,000	£1	£1	£400,000; *i* £1871	£172,370	31-12-06	Interim of 1[- (Coupon No. 8) for a|c 1907	4½	42[-
"Star" Ferry Co., Ld.	1898	$200,000	10,000	$10	$10	$65,000; *i* $32,957	$137	30-4-07	$1.00 50 cts. for year ended 30-4-07	4½	$22 buyers
	1900		10,000	$10	$5					4½	$11 buyers
Taku Tug & Lighter Co., Ld.	—	Tls. 1,500,000	12) 30,000	Tls. 50	Tls. 50	Tls. 98,000; *d* Tls. 419,479; *e* Tls. 62,000; *i* Tls. 81,200; *q* Tls. 30,000	Tls. 18,730	31-12-06	Final of Tls. 2 making Tls. 6 for 1906	12½	Tls. 47 sellers
REFINERIES.											
China Sugar Refining Co., Ld.	1878	$2,000,000	20,000	$100	$100	*o* $345,741; *e* $450,000; *r* $ 56,848	$9,218	31-12-06	$8 for year ending 31-12-06	8	$100 buyers
Luzon Sugar Refining Co., Ld.	1882	$700,000	7,000	$100	$100	none	*Dr.* $138,523	31-12-06	$3 for 1897	—	$10 buyers
Perak Sugar Cultivation Co., Ld.	—	Tls. 350,000	7,000	Tls. 50	Tls. 50	Tls. 100,000	Tls. 8,935	31-8-06	Tls. 4. (8%) for year ending 31-8-06	5	Tls. 80 buyers
MINING.											
Chinese Engineering & Mining Co., Ld.	1901	£1,000,000	1,000,000	£1	£1	*d* £150,000; *h* £84,390	£11,556	28-2-07	Final of 1|6 - Making 3/- for 1907 (Coupon No. 9)	7¾	Tls. 16
Raub Australian Gold Mining Co., Ld	1892	£200,000	150,000	£1	18-10	£4,873	*Dr.* £11,358	31-3-07	No. 12 of 1|- = 48 cents	—	$8¾
			50,000	£1	£1						
DOCKS, WHARVES AND GODOWNS.											
Fenwick (Geo.), & Co., Ld.	1889	$450,000	*z* 18,000	$25	$25	$64,124	$10,335	31-12-06	$1¾ for year ending 31-12-06	12½	$14
Hongkong & Kowloon Wharf & Godown Co., Ld.	1886	$3,000,000	40,000	$50	$50	$550,000; *t* $23,152	$3,047	31-12-06	Interim of $2 for six months ending June 30th 1907	6½	$56 buy. old
do. do. new	1907		20,000	$50	$50	*i* $30.000					$54 buy. new
Hongkong & Whampoa Dock Co., Ld.	1866	$2,500.000	50,000	$50	$50	*v* $50,000; $100,000	$491,580	30-6-07	$4 for half year ending June 30th, 1907	8½	$96 sales
Shanghai Dock & Engin'g Co., Ld.	1906	Tls. 5,570,000	13) 55,700	Tls. 100	Tls. 100	Tls. 1,000,000	Tls. 10,459	30-4-07	Tls. 3 for year end. April 30, 1907	4½	Tls. 72½ sales
Shanghai & Hongkew Wharf Co., Ld.	1902	Tls. 3,600,000	14) 36,000	Tls. 100	Tls. 100	*b* Tls. 487,210; *r* Tls. 100,000; *p* Tls. 190,100; *e* Tls. 75,000	Tls. 23,117	31-12-06	Interim of Tls. 8 for a|c 1907	8¾	Tls. 205 sellers
LANDS, HOTELS AND BUILDINGS											
Anglo-French Land Investment Co., Ld.	1906	Tls. 2,500,000	3) 25.000	Tls. 100	Tls. 100	Tls. 15,000	Tls. 3,388	28-2-07	Tls. 6 for 14½ months ending 28-2-07	6	Tls. 105
Astor House Hotel Co., Ld.	1901	$750,000	4) 30,000	$25	$25	$30,000	$10,908	30-6-07	$2½ for year ending 30-6-07	10¾	$20¾ sellers
Astor House Hotel, Ld. (Tientsin)	—	Tls. 100,000	2,000	Tls. 50	Tls. 50	Tls. 35,000; *e* Tls. 10,000	Tls. 1,013	28-2-06	Final of Tls. 6½ making Tls. 11½ for year ending 28-2-06.	8½	Tls. 140 buyers
Central Stores, Ld.	—	$751,845	16) 50,123	$15	$15	*n.* $1.000	$9.178	31-12-06	$1.80 for 1906	13	$14
Hongkong Hotel Co., Ld.	1866	$600.000	12 000	$50	$50	$648,975; *r* $36,075	$10,925	31-6-07	$4 for 1st half-year ending 30-6-1907	10	$100 buyers
Hongkong Land Investment & Agency Co., Ld.	1889	$5.000,000	50.000	$100	$100	*e* $250,000	$56,218	31-12-06	Interim of $3½ for half year ending 30-6-07	7½	$95
Humphrey's Estate & Finance Co., Ld.	1887	$1,500,000	150,000	$10	$10	*i* $208,386; *e* $50,000	$11,567	31-12-06	80 cents for 1906	7½	$10½ sales

FAR EASTERN STOCKS AND QUOTATIONS—(CONTINUED.)

STOCKS	WHEN ESTABLISHED	CAPITAL	NO. OF SHARES	VALUE	PAID UP	RESERVE	WORKING ACCOUNT	DATE	LAST DIVIDEND	Approximate Yield per cent. per annum at Present Quotation.*	CLOSING QUOTATIONS
Kowloon Land & Bldg. Co., Ld.	1889	$300,000	6,000	$50	$30	none	$1089	31-12-06	$2½ for 1906	7	$35 sellers
Shanghai Land Investment Co., Ld.	1888	Tls. 3,900,000	78.000	Tls. 50	Tls. 50	Tls 869,493 / e Tls. 170,000	Tls. 61,978	31-12-06	Interim div. of Tls. 3 per share for % 1907	7½	Tls. 101 buyers
Tientsin Land Investment Co., Ld.	1902	Tls. 772,600	7,726	Tls. 100	Tls. 100	i Tls. 71,685	Tls. 1,973	31-12-06	Final of Tls. 5 making Tls. 8 for 1906	....	Tls. 100 buyers
West Point Bldg. Co., Ld.	1889	$625,000	12,500	$50	$50	none	$1,519	31-12-06	Interim of $2 for six months ending June 30th 1907	8½	$48 buyers
COTTON MILLS.											
Ewo Cotton Spinning & Weaving Co., Ld.	1895	Tls. 1,000,000	5) 20,000	Tls. 50	Tls. 50	Tls. 150,000 / Tls. 23,276	Tls. 8,807	31-10-07	Tls. 2½ for year ended 31-10-07	5	Tls. 51 buyers [ex div
Hongkong Cotton Spinning, Weaving & Dyeing Co., Ld.	1901	$1,250,000	125,000	$10	$10	e $60,000	$14,269	31-7-07	50 cents for year ending 31-7-07	5	$10
International Cotton Manufacturing Co., Ld.	1895	Tls. 750,000	6) 10,000	Tls. 75	Tls. 75	Tls. 150,000	Tls. 85,519	30-9-07	Tls. 6 for year end. 30 9-06 (8%)	....	Tls. 50
Laou-kung-mow Cotton Spinning & Weaving Co., Ld.	1895	Tls. 800,000	7) 8,000	Tls. 100	Tls. 100	none	Tls. 31,469	31-12-06	Tls. 8 for 1906	....	Tls. 70 sellers
Soy Chee Cotton Spinning Co., Ld.	1895	Tls. 1,000,000	2,000	Tls. 500	Tls. 500	l Tls. 28,257	Tls. 50,663	31-12-06	Tls. 50 for 1906	....	Tls. 270 sellers
MISCELLANEOUS.											
Bell's Asbestos Eastern Agency, Ld.	1895	£5,377.10s	11) 8,604	12-6	12-6	£1,299	£638	31-12-06	1s. 3d. for 1906	9	$ 6½
Campbell, Moore & Co., Ld.	1886	$12,000	1,200	$10	$10	$9,000	$653	31-12-06	$3 for 1905	....	$10 buyers
China-Borneo Co., Ld.	1903	$720,000	8) 60,000	$12	$12	none	Nil.	31-12-06	$1 for 1904	....	$10½ buyers
China Flour Mill Co., Ld.	....	Tls. 200,000	4,000	Tls. 50	Tls. 50	Tls. 50,000	Tls. 889	31-12-05	Final of Tls. 5 making Tls. 10 for 1905	....	Tls. 60 buyers
China Light & Power Co., Ld.	1901	$550,000	50,000	$10	$10	none	$25,000	28-2-07	60 cents for year ending 28-2-06	....	$6
Do. do. Special Shares	1907		17) 50,000	$1	$1						
China Provident Loan & Mortgage Co., Ld.	1898	a $1,000,000	100,000	$10	$10	$115,000	$855	31-12-06	80 cents for 1906	8¾	$9½ sales
Dairy Farm Co., Ld.	1896	$187,500	25,000	$7½	$6	i $60,000 / $5,000	$2,974	31-7-07	$1.30 for year ending 31-7-07	7¾	$17 buyers.
Green Island Cement Co., Ld.	1889	$4,000,000	400,000	$10	$10	$11,000	$10,804	31-12-06	Interim div. of 50 cents per share for % 1907	8¾	$11½
Hall & Holtz, Ld.	....	$420,000	21,000	$20	$20	$186,000	$15,002	28-2-07	$2½ for year ending 28-2-07	11¼	$21 buyers
Hongkong Electric Co., Ld.	1889	$600,000	60,000	$10	$10	none	$2,953	28-2-07	$1.00 for year ending 28-2-07	6¾	$15
Hongkong Ice Co., Ld.	1881	$125,000	5,000	$25	$25	k $105,000	$4,361	31-12-06	Interim of $4 for half year end. June 30th 1907	9½	$240
Hongkong Rope Manufacturing Co., Ld.	1883	$500,000	50,000	$10	$10	$65,000	$4,212	31-12-06	Interim of 80 cents per share for % 1907	8	$25
Maatschappij tot Mijn-, Bosch- en Landbouwexploitatie in Langkat	1902	Gs. 2,500,000	25,000	Glds. 100	Glds. 100	Tls. 547,500 / i Tls. 27,603	Tls. 10,374	31-10-05	Final of Tls. 7½ & bonus of Tls. 2½ making in all Tls. 22½ for 1907	9	Tls. 362½ buyers
Peak Tramways Co., Ld.	1907	$750.000	25,000	$10	$10	none	$2,655	30-4-07	$1 per share for period from 19th Oct. to 30th April, 1907	8	$13
Do. (New)			50,000	$10	$10						$2 bnyers.
Philippine Co., Ld.	1904	$675,000	67,500	$10	$10	none	Dr. P. 34,324	31-12-05	None	....	$5 buyers
Shanghai Gas Co., Ld.	1903	Tls. 800,000	24,000	Tls. 50	Tls. 50	d Tls. 100,000	Tls. 7,990	31-12 06	Interim of Tls. 3½ for a]c 1907.	7¾	Tls. 107 buyers
Shanghai Horse Bazaar Co., Ld.	1904	Tls. 270,000	5,400	Tls. 50	Tls. 50	Tls. 67,323	Tls. 9,751	31-12-05	Tls. 4 for 1905	....	Tls. 45 sellers
Shanghai Pulp & Paper Co., Ld.	....	Tls. 450,000	4,500	Tls. 100	Tls. 100	Tls. 45,000 / e Tls. 8,000	Tls. 3,354	31-12-06	Final of Tls. 5 making Tls. 10 for 1906	....	Tls. 60
Shanghai-Sumatra Tobacco Co., Ld.	1902	Tls. 600,000	9) 30,000	Tls. 20	Tls. 20	Tls. 24,820 / w Tls. 50,000	Tls. 7,843	31-10-06	Interim of Tls. 5 (25%) account 1907	8½	Tls. 120 buyers
Shanghai Waterworks Co., Ld.	1881	£327,000	16,350	£20	£20	Tls. 190,000	Tls. 85,592	31-12-05	Interim of 15/- for % 1907 (old) Interim of 11/3- for % 1907 (n.)	....	Tls. 335 buyers
South China Morning Post, Ld.	1903	$150,000	6,000	$25	$25	none	Dr. $41.934	28-2-06	None	....	$20 sales
Steam Laundry Co., Ld.	1902	$100,000	20,000	$5	$5	none	478	31-5-07	40 cents for year ending 30-5-07	6¾	$6 sellers
Tientsin Waterworks Co., Ld.	1901	Tls. 200,000	2,000	Tls. 100	Tls. 100	Tls. 15,259 / e Tls. 4,000	Tls. 201	30-4-07	Tls. 6½ for year ending 30-4-07	....	Tls. 97
Union Waterboat Co., Ltd.	1905	$500,000	15) 50,000	$10	$10	none	$349	31-12-06	First year	....	$10½ buyers
United Asbestos Oriental Agency, Ld.	1896	$100,000	10,000	$10	$4	$35,000	$130	31-5-07	80 cts. on 9,900 ord. shares & $19.80 on 100 founder shares for year ending 31-5-07	8	$10
Watson (A. S.) & Co., Ld.	1886	$900,000	90,000	$10	$10	$300,000 / $25,000	$5,482	31-12-06	Interim of 30 cts. for % 1907	7	$10
William Powell, Ld.	1901	$150,000	15,000	$10	$10	none	$41	30-6-07	Final of 30 cents making 80 cents for year ending June 30th 1906	....	$5 buyers

LOANS AND DEBENTURES.	AGENTS FOR THE LOAN.	AMOUNT OF LOAN.	PAR VALUE	OUTSTANDING BONDS.	WHEN PAYABLE.	CLOSING QUOTATIONS.	
China Government, 7 per cent. Silver Loan 1886 E.	Hongkong & Shanghai Banking Corporation.	Tls. 767,200	Tls. 250	1914	Mar. 31st and Sept. 30th each year until Mar. 31st, 1917	par.	Plus accrued interest
Hongkong Hotel Company, Ltd., 6 per cent. Mortgage Debentures of 1899 ‡		$500,000	$500	§ all	Half yearly, June 30th and December 31st	par.	
Shanghai & Hongkew Wharf Company, Ltd., 6 per cent. Debentures of 1902		Tls. 543,900	Tls. 100	.....	Half yearly, June 30th and December 31st	Tls. 99	
Astor House Hotel Company, Ltd., 8 per cent. Debentures of 1903		Tls. 500,000	Tls. 100	.....	Half yearly, January 1st and July 1st	Tls. 105	
Chinese Engineering & Mining Co., Ltd., 6 per cent. Debentures of 1903 †	.....	£500,000	¶	£431,960	Half yearly, June 30th and December 31st	par.	
International Cotton Manufacturing Co., Ltd. 7% Debentures of 1901	Russo Chinese Bank	Tls. 500,000	Tls. 100	||	Half yearly, March 31st and Sept. 30th	Tls. 97½.	
China Light and Power Co., Ltd. 6% Debentures of 1907 ***	.....	$500,000	$100	.....	Half yearly, June 30th and December 31st.	par.	

a Authorized capital $2,000,000.
b Building Reserve Account.
c Capital Reserve Fund.
d Depreciation Fund.
e Equalization of Dividend Fund.
f Exchange and Investment Fluctuation Account.
g Gold Reserve Fund
h Exchange Reserve Account.
i Insurance Fund.
j Reinsurance Fund.
k Contingencies Account.
l Legal Reserve Fund.
m Authorized Capital
n Sinking Fund.
o Raw Sugar Reserve Account.
p Premium on New Issue.
q Boiler Repairs and Renewals Account
r Repairs and Renewals Account.
s Silver Reserve Fund.
t Depreciation and Repairs Account
u Underwriting Suspense Account.
v Special account
w Special Works Fund.
x Extra Reserve Fund.
y 72,560 owned by the Company.
z 7,200 shares unissued.
1 5,725 shares unissued.
2 First issue of 60,000 of which 10,411 unallotted.
3 5,000 shares unissued.
4 4,480 shares unissued.
5 5,000 shares unallotted.
6 1,616 shares unallotted.
7 842 shares unissued.
8 14,000 shares unissued.
9 17,000 shares unissued.
10 40,453 shares actually issued.
11 7,688 shares actually issued.
12 4,200 shares unissued.
13 500 shares unissued.
14 198 shares unissued.
15 22,250 shares unissued.
16 10,000 shares unissued.
17 Special shares are entitled to half of the profits.
18 Capital contributed by Chinese Government-Kuping Tls. 5,000,000.
* Based on last year's dividend.
** Based on present dividend.
|| Only Tls. 134,000 taken up.
§ 216 held by the Company.
¶ In certificates of £20 and £100.
‡ Redeemable in 10 years, or at option of Company, the Company giving 6 months notice.
† Redeemable at par at rate of £10,000 per annum from 31st December 1903 to 31st December 1952.
*** Redeemable at par on 30th June, 1915.
Dr. Deficit.

SINGAPORE SHARE QUOTATIONS

(COURTESY MESSRS. FRASER & CO., BROKERS, SINGAPORE, DECEMBER, 1907)

Date of Formation	Capital	Capital paid up	No of Shares Issued	Issue Value	Paid up	Reserve	Last Dividend	Name	Buyers	Sellers	Closing Quotations
								MINING			
1903	$300,000	300,000	30,000	10	10	.....	25% for year ending 31-3-07	Belat Tin Mining Co., Ltd	7.50	7.75	$ 7.50
1907	$300,000	225,000	22,500*b*	10	10	.....	.....	Bruang Ltd	5.00	5.75	5.75
1901	$600,000	600,000	60,000	10	10	.....	20% for year ending 30-4-07	Bruseh Hydraulic Tin Mining Co., Ltd	14.00	15.00	14.00
1903	£400,000	350,000	350,000*a*	1	1	.....	.....	Duff Development Co., Ltd	1.45	1.50	1.50
1905	£30,000	30,000	30,000	1	1	.....	3/- during 1906	Jeher Hydraulic Tin Mine, Ltd	....	....	5.00
1907	$400,000	375,000	37,500*b*	10	10	.....	.....	Kanaboi, Ltd	5.75	6.00	6.00
1901	£60,000	60,000	60,000	£1	£1	.....	1/6 interim during 1907	Kinta Tin Mines, Ltd	....	10.50	10.50
1906	£100,000	90,000	90,000*c*	£1	£1	.....	.....	Kledang Tin Mining Co., Ltd	....	8.50	8.50
1905	$150,000	99,000	9,900*d*	10	10	6,000	25% interim for 1907	Kuantan Tin Mining Co., Ltd	16.00	....	16.00
1906	£120,000	120,000	120,000	1	1	.....	.....	Lahat Mines Ltd	8.00	8.25	8.25
1906	£30,000	30,000	30,000	£1	£1	.....	.....	Malaya and Siam Corporation, Ltd	....	£1 0*s.* 0*d.*	£1 0*s.* 0*d.*
1906	$450,000	337,500	45,000	10	7.50	.....	.....	Malacca Tin Dredging Co., Ltd	....	7.00	7.00
1906	£250,000	179,500	600,000*j*	5/-	5/-	.....	.....	Pahang Consolidated Co., Ltd	28/6	29/-	28/6
			100,000	£1	£1	.....	.....	" " " 7% *Pref*	....	....	nominal.
1904	£120,000	100,000	100,000*e*	1	1	£6,000	45% ior year ending 30-6-07	Pusing Lama Tin Mines, Ltd	9.00	9.50	9.50
1905	£27,000	21,750	21,750*f*	1	1	.....	1/- interim during 1907	Rambutan, Ltd	11.00	11.75	11.75
1892	£200,000	191,250	50,000	1	1	4,873	1/- paid January 1901	Raub Aust Gold Mine Co., Ltd, *Fully. pd.*	7.50	7.75	7.75
			150,000	1	18/10	.....	1/- " " "	*Contrib*	7.50	7.75	7.75
1905	£40,000	35,200	35,200*g*	1	1	.....	.....	Redhills Tin Mining Co., Ltd	....	....	13.25
1898	2,500,000	2,500,000	25,000	100	100		52½% for year ending 31-12-06	Redjang Lebong Mining Co	....	....	555.00
1900	$110,000	110,000	22,000	5	5	.....	10% for 1907	Royal Johore Tin Mining Co., Ltd	....	1.50	1.50
1907	$500,000	$500,000	$50,000	10	$7.50	.....	.....	Salak South, Ltd	....	6.25	6.25
1907	£80,000	80,000	80,000	1	1	.....	.....	Sempam Tin Mines, Ltd	....	8.25	8.25
1906	$850,000	850,000	85,000	10	10	.....	27½% interim during 1907	Serendah Hydraulic Tin Ming. Co., Ltd	....	11.00	11.00
1899	$230,000	230,000	23,000	10	10	.....	5% for ½ year ending 30-6-06	Sipiau Tin Co., Ltd	....	5.00	5.00
1907	£90,000	70,000	70,000*c**	£1	£1	.....	.....	Tekka, Limited	9.50	10.00	10.00
1902	£160,000	149,185	149,185*h*	1	1	.....	5/- interim during 1907	Tronoh Mines, Ltd	15.00	15.75	15.75
1907	$60,000	60,000	600	100	100	.....	.....	Tunggal Tin, Ltd	20.00	25 00	25.00
								RUBBER			
1905	£150,000	£116,625	46,500*i*	1	1	.....	10% interim for 1907	Anglo-Malay Rub. Co., Ltd. *Fully paid*	£4.5.0	4.10.0	£4 7*s.* 6*d.*
			93,500	1	15/-	.....	.....	" " " " *Contributory*	....	....	£3 10*s.* 0*d.*
1905	$200,000	105,000	10,500	10	10		12½% interim for 1907	Balgownie Rub. Estate Ltd. *Fully paid*	....	25.00	$25.00
1904	£30,000	15,250	7,000*k*	1	1	.....	.....	Batu Caves Rub. Co., Ltd. *Fully paid*	....	....	£5. 15*s.* 0*d.*
			11,000	1	15/-	.....	.....	" " " " *Contributory*	....	....	£4. 2*s.* 6*d.*
1903	£70,000	61,000	61,000*l*	1	1	.....	10% interim for 1907	Bukit Rajah Rubber Co., Ltd	....	....	£4. 12*s.* 6*d.*
1906	$150,000	125,000	12,500*m*	10	10	.....	.....	Castlewood Rubber Co., Ltd	....	....	$12.00
1904	£12,000	10,500	6,000	1	1	.....	15% for year ending 31-3-07	Cicely Rubber Estates Co., Ltd	....	5.15.0	£5. 15*s.* 0*d.*
			6,000	1	15/-	.....	20% for year ending 31-3-07	" " " " 5% *Pref*	....	....	£6 7*s.* 6*d.*
1905	£75,000	55,000	55,000*n*	1	1	.....	10% for year ending 31-12-06	Consolidated Malay Rub. Estates, Ltd	2.10.0	2.17.6	£2 17*s.* 6*d.*
1906	£310,000	243,227	181,454*o*	1	1	.....	5% interim for 1907	Highlands & Lowds. Para Rub. Co., Ltd., *Fully paid*	£2.5.0	£2.7.6	£2 7*s.* 6*d.*
			123,546	1	10/-	.....	.....	" " " " *Contributory*	....	1.12.6	£1 12*s.* 6*d.*
1906	£180,000	£180,000	180,000	1	1	.....	3% for 1906	Kuala Lumpur Rubber Co., Ltd	....	£1.6.0	£1 6*s.* 0*d.*
1907	£320,000	201,500	184,000*g**	£1	£1	.....	.....	Lanadron Rubber Estates, Ltd	....	....	nominal
			70,000	£1	5/-	.....	.....	" " "	14 6	15/-	15/-
1906	*f.* 175,000	*f.*146,250	80	*f.*250	250	.....	.....	Langen Rub. and Cocoanut Co., Ltd	....	....	*f.*300.
			460	*f.*250	187.50	.....	.....	" " " " " "	....	....	*f.*210.00
			160	*f.*250	250	.....	.....	" " " " " " *Deferred*	....	....	*f.*250.
1906	$250,000	225.000	22,500*p*	10	10	.....	.....	Ledbury Rubber Co., Ltd	14.50	15.00	$15 00
1895	£100,000	76.100	900,000*g**	2/-	2/-	.....	10% interim for 1907	Linggi Plantations Ltd., *Ordinary*	10/-	10/9	10/9
			10,000	1	1	.....	.....	" " " 7% *Pref*	....	£1.0.0	£1 0*s.* 0*d.*
1906	£300,000	260,625	115,000	1	1	.....	7½% for year ending 31-12-06	Malacca Rubber Plantations 7½% *Pref*	£1.1.6	1.2.6	£1 2*s.* 6*d.*
			140,000	1	1	.....	.....	" " Ordinary *Fully paid*	16/-	16/9	16/9
			45,000	1	2/6	.....	.....	" " *Contributory*	....	....	nominal.
1903	£30,000	20,000	20,000*q*	1	1	.....	10% interim for 1907	Pataling Rubber Estates Synd. Ltd	....	....	£7. 10*s.* 0*d.*
1906	$250,000	225,000	22,500*e**	10	10	.....	.....	Ragalla Rubber Co., Ltd	....	....	$12.00
1904	£20,000	8.794	2,588*d**	1	1	.....	.....	Sagga Company Limited	....	....	£2. 10*s.* 0*d.*
			12,412	1	10/-	.....	.....	" " "	....	....	.....
1904	$100,000	100,000	1 000	100	100	.....	20% for year ending 31-1-07	Sandycroft Rubber Co., Ltd	....	345.00	$345.00
1898	£30,000	28,150	263,000	2/-	2/-	.....	25% interim for 1907	Selangor Rubber Co., Ltd	....	18/	18/
			37,000	2/-	1/-	.....	.....	" "	....	....	nominal.
1903	$250,000	250,000	2,500	100	100	.....	.....	Sing. & Johore Rub. Co., Ltd. *Fully paid*	....	190.00	$190.00
1905	$100,000	100,000	10,000	10	10	.....	7½% for year ending 30/6/07	Sione Rubber Co., Ltd	....	15.50	$15.50
1906	£100,000	93,375	73,500	£1	£1	.....	.....	Sungei Kapar Rubber Co., Ltd	....	....	nominal.
			26,500	£1	15/	.....	.....		....	....	£2 1*s.* 0*d.*
1904	£50,000	28,795	6,920*r*	1	1	.....	.....	Sungei Way (Selangor) Rub. Co. Ltd	....	....	£2 0*s.* 0*d.*
			35,000	1	12/-6	.....	.....	" " " *Contributory*	....	1.10.0	£1. 10*s.* 0*d.*
1904	£60,000	50,000	50,000*s*	2/-	2/-	.....	55% for 1906	Vallambrosa Rubber Co., Ltd	....	....	15/-
								GENERAL			
1894	£5,377.10.0	£4,805	7,688*f**	12/6	12/6	£1,300	10% for year ending 31-12-06	Bells Asbestos Eastern Agency, Ltd	....	....	7.00
1898	$225,000	225,000	4,500	50	50	112,500	15% & 2½% bon. for yr. end. 31-12-06.	Fraser & Neave, Ltd	145.00	147.50	147.50
1865	$15,000,000	15,000,000	80,000	125	125	£1,000,000*w*	£1 15*s.* 0*d.* for ½ year ending 30/-	Hongkong & Shanghai Bankg Corptn	....	....	$575.00
			40,000	125	125	11,750,000*x*	6/07 at ex. £2 2*s.* 3-16*d.*=$16.04		....	....	$570.00
						250,000*y*					
1905	$2,400,000	2,400,000	18,000	100	....	40,000	7½% for year ending 31-10-06	Howarth Erskine, Ltd	165.00	....	165.00
			6,000	100	....	.....	7% for year ending 31-10-06	" " 7% *Pref*	120.00	....	120.00
1896	$1,000,000	1,000,000	6,000	100	100	600,000	10% for year ending 31-12-06	Katz Brothers, Ltd. *Deferred*	....	....	135.00
			4,000	100	100	.....	8% " " " " "	" " 8% *Cum. Pref*	....	....	nominal.
1901	$34,000	34,000	3,400	10	10	.....	20% for year ending 31-10-06	Maynard & Co., Ltd	20.00	22.00	22.00
1899	$875,000	875,000	6.000	100	100	150.000	5% for year ending 31/12/06	Riley, Hargreaves & Co., Ltd	....	117.50	117.50
			2,750	100	100	.....	7% for year ending 31/12/06	" " " " 7% *Pref*	115.00	....	115.00
1903	$600,000	240,000	24,000*t*	10	10	.....	.....	Singapore Cold Storage Co., Ltd	....	6.00	6.00
1891	$30,000	30,000	600	50	50	20,000	10% for year ending 31-7-07	Singapore Dispensary Ltd	....	....	50.00
1903	£750,000	750,000	400,000*i**	£1	£1	.....	.....	Singapore Electric Tramways, Co., Ltd.	6/-	6/6	6/6
1884	$200,000	200,000	2,000	100	100	35,000	20% for year ending 31-12-05	Straits Ice Co., Ltd	127.50	....	127.50
1890	$500,000	500,000	5,000	100	100	400,000	5% interim during 1907	Straits Steam Ship Co., Ltd	180.00	195.00	195.00
						241,075*z*					
1904		$40,000	$30,280	2,535*u*	10	8	.....	.....	Straits Tobacco Factory, Ltd	....	3.50
				1,000	10	10	.....	.....	" " " "	....	....	nominal.
1887	$3,000,000	2,500,000	250,000*v*	10	10	1,050,000	10% & 5% bon. ½ yr. end. 31-3-07	Straits Trading Co., Ltd	56.00	56.50	56.00
						1,137,084*a**					
								DEBENTURES			
								Howarth Erskine, Ltd. 6% $ 600,000	....	....	3% prem.
								Riley, Hargreaves & Co., Ld. 6% 225,000	....	....	3% prem.
								Singapore Electric Tramways, Co., Ltd. 5% 350,000	....	....	nominal
								Singapore Municipal 6% 400,000	....	....	20% prem.
								" " 5% 1,878,000	....	5%	3% prem.
								" " 4½% 1,600,000	....	....	5% prem.
								" " 4% 602,900	....	....	2% dis. nom
								Straits Engineering Sind., Ltd. 6% 45,000	....	....	par.
								Tanjong Pagar. Dock Board 6% 250,000	....	....	3% prem.
								" " " 5% 1,050,000	....	....	1% prem.

a 50,000 unissued
b 2,500 "
c 10,000 "
d 5,100 "
e 20,000 "
f 5,250 "
g 4,800 "
h 10,815 "
i 10,000 "
j 100,000 " *Ord.*
j 45,500 " *Pref.*
k 12,000 "

l 9,000 unissued.
m 2,500 "
n 20,000 "
o 5,000 "
p 2,500 "
q 10,000 "
r 8,080 "
s 100,000 "
t 36,000 "
u 465 "
v 50,000 "
w Special Gold Reserve Fund

x Silver Reserve Fund.
y Insurance Fund.
z Sundry Reserves.
*a** Sundry Reserves.
*b** 7,500 unissued.
*c** 20,000 "
*d** 5,000 "
*e** 2,500 "
*f** 916 "
*g** 239,000 "
*h** 66,000 "
*i** 350,000 5% Debs.

YOKOHAMA SHARE QUOTATIONS

COURTESY A. C. HUTTON POTTS, SHARE AND GENERAL BROKER, YOKOHAMA, DECEMBER, 1907

STOCKS	CAPITAL.	NO. OF SHARES	ISSUE VALUE	AMOUNT PAID UP	RESERVE FUND	AT WORKING ACCOUNT OR CARRIED FORWARD	DATE	LAST DIVIDEND	FOR TERM	CLOSING QUOTATION
Brett & Co., Ltd.	-Y- 28,000	2800	-Y- 10	-Y- 10			31-12-06	8%	for 1 year	10 Sellers.
Club Hotel, Ltd.	185,000	1850	100	100	3,000	-Y- 943.52	31-3-07	10%	for ½ year	80 Sellers.
Grand Hotel, Ltd.	500,000	5000	100	100	5,000	-Y- 23,011.87	30-6-07	6%	for ½ year	140 Sellers.
Helm Bros., Ltd.	186,000	3720	50	50	22.500	-Y- 2,916.83	31-12-06	20%	for 1 year	80 Sellers.
Langfeldt & Co., Ltd.	150,000	1500	100	100		Dr. 20.304.15	31-12-06		for ½ year	45 Sales.
C. Nickel & Co., Ltd. †	500,000	20000	25	25		1,470.97	31-10-06	16%	for 1 year	41½ Sales.
Yokohama Engine and Iron Works *	500,000	10000	50	50	50,000	-Y- 12,477.04	31-5-07	10%	for ½ year	82½ Sellers.
Oriental Hotel, Ltd., Ordinary	250,000	3000	50	50	62,285.42		31-8-06	15%	for 1 year	50 Nominal.
Oriental Hotel Ltd., Preference		2000	50	50				8%	for 1 year	50 Nominal.
The Union Estate, and Investment Co., Ltd. ‡	1,000,000	10000	100	100			First Year.			105 Sales.

† 285,000 unissued.

‡ 475,000 unissued.

*-Y- 390,000 issued.

110,000 unissued.

DEBENTURE LOANS	AMOUNT OF LOAN.	FACE VALUE OF DEBENTURES.	RATE OF INTEREST.	INTEREST PAYABLE.	CLOSING QUOTATION.
Brett & Company, Limited	11,500.00	100.00	7%	1 June and 1 Dec.	95 Sales.
Yokohama United Club	250,000.00	100.00	7%	30 June and 31 Dec.	105 Sales.
C. Nickel & Company, Limited	50,000.00	100.00	8%	1 May and 1 Nov.	110 Sellers.
Oriental Hotel, Limited	250,000.00	100.00	8%	1 April and 1 Oct.	100 Sellers.
Union Estate and Investment Co., Limited	250,000.00	100.00	6%	30 June and 31 Dec.	100 Sellers.

JAPANESE STOCKS.	FACE VALUE.	AMOUNT PAID UP.	DIVIDENN PER ANNUM.	DIVIDEND PAYABLE.	CLOSING QUOTATION.
Exchequer Bonds 1st issue	-Y-100	-Y-100	5%	June and Dec.	-Y- 97.90 ex int.
Exchequer Bonds 2nd issue	100	100	5%	March and Sept.	,, 93.00
Exchequer Bonds 3rd issue	100	100	5%	March and Sept.	,, 93.00
Consolidated Bonds (Seiri)	100	100	5%	June and Dec.	,, 84.10 ex int.
War Bonds (Gunji)	100	100	5%	June and Dec.	,, 84.10 ,,
Imperial 5% Bonds (Goburi)	100	100	5%	March and Sept.	,, 83.40
Imperial Government 5% Bonds (issued 1906)	100	100	5%	June and Dec.	,, 84.20 ex int.
Kobe Water Works Bonds	100	100	6%	June and Dec.	,, 94.00 ,,
Osaka Harbour Bonds	100	100	6%	June and Dec.	,, 93.00 ,,
Osaka City Public Loan Bonds	100	100	6%	June and Dec.	,, 93.00 ,,
Yokohama Water Works Bonds	100	100	6%	June and Dec.	,, 96.50 ,,
Yokohama City Public Loan Bonds	100	100	6%	March and Sept.	,, 96.00
Sanyo Railway Company Debentures (2nd issue)	100	100	6%	April and Oct.	,, 96.00
Tokyo Stock Exchange Company	50	50	40%	June and Dec.	,, 94.00
Hokkaido Colliery (Tanko) Steamship Company, Limited	50	50	14%	July and Jan.	,, 89.20
Hoden Petroleum Company, Limited	50	50	36%	April and Oct.	,, 122.00
Yokohama Electric Tramway Company, Limited	50	50	7%	July and Jan.	,, 42.00
Tokyo Railway Company Limited	50	50	9%	June and Dec.	,, 62.80
Keihin Electric Railway Company, Limited	50	50	13%	June and Dec.	, 66.50
Imperial Hemp Weaving Company, Limited	50	50	13%	July and Jan.	,, 55.90
Kanegafuchi Cotton Spinning Company, Limited	50	50	22%	July and Jan.	,, 84.00
Tokyo Cotton Spinning Company, Limited	50	50	20%	July and Jan.	,, 65.00
Fuji Gassed-Yarn Company, Limited	50	50	25%	July and Jan.	,, 85.80
Nisshin Cotton Spinning Company, Limited	50	12½	—	——	,, 8.90
Fuji Paper Mill Company, Limited	50	50	10%	June and Dec.	,, 46.00
Yokohama Dock Company, Limited	50	33	15%	June and Dec.	,, 58.00
Tokyo Rope Manufacturing Company, Limited	50	50	20%	June and Dec.	,, 85.00
Nippon Sugar Refinery Co., Ltd. (Tokyo)	50	50	17½%	May and Nov.	,, 73.50
Dai Nippon Beer Brewery Company, Limited	50	50	15%	July and Jan.	,, 85.05
Tokyo Gas Company, Limited	50	50	15%	July and Jan.	,, 84.05
Kirin Brewery Company, Limited	50	50	8%	July and Jan.	,, 69.00
Tokyo Electric Light Company, Limited	50	50	10%	June and Dec.	,, 65.00
Yokohama Electric Light Company, Limited	50	50	15%	July and Jan.	,, 75.00
Osaka Electric Light Company, Limited	50	50	15%	July and Jan.	,, 94.50
Kobe Electric Light Company, Limited	50	50	14%	July and Jan.	,, 92.00